

Nomenclatural novelties in *Pezizales*

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Abstract: Three nomenclatural novelties are proposed. The first one consists in the definition of a new family *Coprotaceae*, based on the isolated position of the clade *Boubovia-Coprotus* within the *Pezizales*. The second one is the combination of *Peziza waltersii* Seaver into the genus *Elaiopezia* based on molecular and morphological characters. The last one concerns the combination of *Aleuria palustris* (Boud.) Le Gal into the genus *Peziza*.

Keywords: Ascomycota, Coprotaceae, Elaiopezia, Peziza, taxonomy, 1 new family, 2 new combinations.

Résumé : trois nouveautés nomenclaturales sont proposées. La première concerne la définition d'une nouvelle famille *Coprotaceae*, basée sur la position isolée du clade *Boubovia-Coprotus* au sein des *Pezizales*. La deuxième est la combinaison de *Peziza waltersii* Seaver dans le genre *Elaiopezia* sur la base des caractères moléculaires et morphologiques. La dernière concerne la combinaison d'*Aleuria palustris* (Boud.) Le Gal dans le genre *Peziza*.

Mots-clés : Ascomycota, Coprotaceae, Elaiopezia, Peziza, taxinomie, 1 nouvelle famille, 2 nouvelles combinaisons.

Introduction

We propose some nomenclatural changes and novelties related to *Pezizales* taxa. These results come from various works dealing with several genera of *Pezizales* which will be published in the forthcoming months or from explorations for the project "2000 *Pezizales*" (<https://ascomycete.org/2000-pezizales>).

Material and methods

As for our phylogenetic analysis, we used the BLAST® search algorithm to find the most closely related sequences from the International Nucleotide Sequence Database Collaboration (INSDC) public database. Selected sequences were aligned with the software MAFFT v7.0 (KATO & STANDLEY, 2013) with the default execution parameters. The analysis of maximum likelihood was performed on LSU region with FastTree v2.1 (PRICE *et al.*, 2010) using a GTR evolutionary model and 1000 bootstrap replications. It was made online with NGPhylogeny.fr (LEMOINE *et al.*, 2019). The phylograms were graphically edited with the online software iTOL v5.6 (<https://itol.embl.de>, LETUNIC & BORK, 2019).

Taxonomy

Novelty #1

HANSEN *et al.* (2013) showed that the genera *Coprotus* Korf & Kimbr. and *Boubovia* Svrček belong to a sister lineage of *Ascodesmidaceae*. Despite this result, JAKLITSCH *et al.* (2016) and EKANAYAKA *et al.* (2018) integrated them in the family *Ascodesmidaceae*. LINDEMANN *et al.* (2019) produced a 3-gene phylogeny (combination of 28S rDNA-*tef1-rpb2*) which confirmed the results of HANSEN *et al.* (2013). Consequently, we propose to name the lineage *Boubovia-Coprotus* as *Coprotaceae* fam. nov.

Coprotaceae U. Lindemann & Van Vooren, *fam. nov.* – MB 838852

Description: Ascomata apothecial, sessile, globose to disc-shaped, not hairy. Asci operculate, 8- to 256-spored, narrow cylindrical to broadly clavate, mostly arising from free croziers, inamyloid. Ascospores uni- or irregularly biserial, ellipsoid, smooth or exceptionally warted, containing De Bary bubbles when placed in anhydrous conditions. Paraphyses mostly bent to uncinata, often containing numerous refractive bodies in living state. Ectal excipulum of *textura globulosa*. Species saprobic, mostly growing on dung and plant/wood debris, more rarely on soil.

Type genus: *Coprotus* Korf & Kimbr., *Amer. J. Bot.*, 54 (1): 21 (1967).
Type species: *Coprotus sexdecimsporus* (P. Crouan & H. Crouan) Kimbr. & Korf

For more information about *Coprotus*, see KUŠAN *et al.* (2018), and about *Boubovia*, see YAO & SPOONER (1996).

Novelty #2

BOUDIER (1907) published *Aleuria ampliata* var. *palustris*, a taxon growing in marshes on decayed stems of plants. It is shortly described as having pulvinate and regular, small apothecia. LE GAL (1937) raised it to the species rank as *A. palustris* and gave a description based on a collection of her own. She indicated the following ascospores characters: 16.75–19 × 8–9.5 μm, with finely warted walls. DONADINI (1981) did not describe this species although there exist several collections in his herbarium (MAURUC, pers. comm.). He just cited it in his key, p. 90, under "*P. palustris* Boud." (*sic*). We believe this taxon is a good species differing from *Peziza ampliata* Pers. by the shape and ornamentation of the ascospores, ellipsoidal and smooth in *ampliata*, ellipsoidal with tapered ends and finely warted in *palustris*, as well as their habitat. In the same habitat, *A. palustris* could be confused with *Peziza paludicola* (Boud.) Sacc. & Traverso, *P. subuliginosa* Donadini and *P. acropapulata* Dougloud. *P. paludicola* is described by BOUDIER (1907) as shortly stipitate and differs microscopically from *A. palustris* by wider paraphyses and larger smooth ascospores. *P. subuliginosa* has also larger smooth ascospores containing droplets (VAN VOOREN & MAURUC, 2020). Finally, *P. acropapulata* was described from dead plants (*Typha* and *Phragmites*) and wood debris in a wet place (DOUGOUD, 2012). It also possesses warted ascospores but differs from *A. palustris* by the presence of obtuse apiculi.

Accordingly, we propose to combine *A. palustris* in the genus *Peziza*, but as this epithet is preoccupied by *P. palustris* Saut. 1841, we choose the following new name:

Peziza palustroides Van Vooren, *nom. nov.* – MB 838898

Basionym: *Aleuria ampliata* var. *palustris* Boud., *Hist. Class. discom. Eur.*: 44 (1907).

Novelty #3

VAN VOOREN (2020) published a new multigene phylogeny of the *Pezizaceae*. Several new genera were proposed to accommodate some of the lineages highlighted shown in the phylogram. The genus *Elaiopezia* Van Vooren was erected for a group of species characterised by their yellow to olivaceous yellow or olivaceous brown apothecia due to the pigment present in the paraphyses. They also

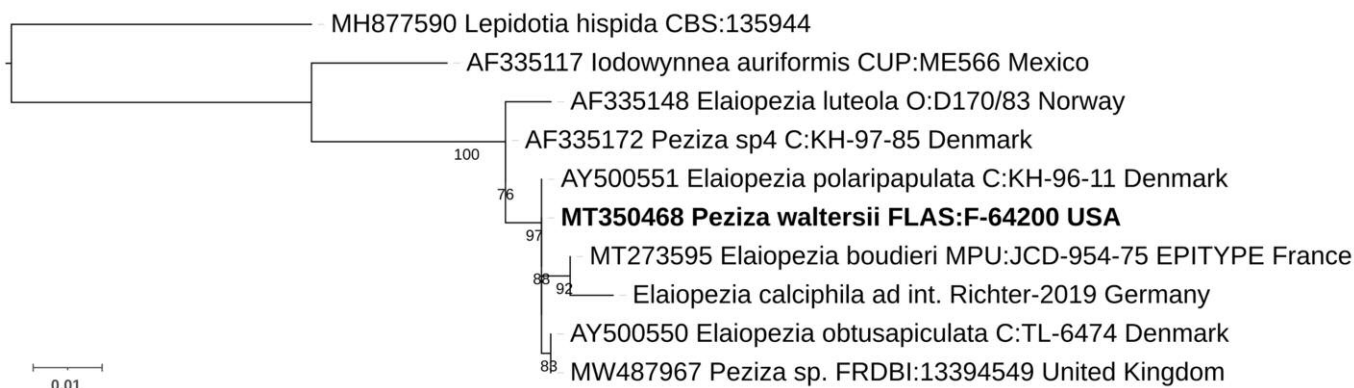


Fig. 1 – Phylogram of maximum likelihood (ML) of *Elaiopezia* based on the LSU region, rooted with *Lepidotia hispida*. Nodes with $\geq 70\%$ ML bootstrap support are annotated with their support values.

have in common a weak amyloid reaction of their asci wall and egutulate ascospores when mature. They are considered as saprobic, often growing on decaying wood or debris.

We recently discovered that *Peziza waltersii* Seaver, a North American species, belongs to this genus. The fig. 1 shows a LSU sequence of a typical collection of this species nested into *Elaiopezia*. Beyond this molecular result, the morphology and microscopical characters agree with the definition of this genus. Thus, we make the following combination:

Elaiopezia waltersii (Seaver) Grootmyers, Healy & Van Vooren, *comb. nov.* – MB 838897

Basionym: *Peziza waltersii* Seaver, *N. Amer. Cup-fungi (Opercul.)*, suppl. ed.: 332 (1942).

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