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Echinodiscus lesdainii gen. et comb. nov., a new name for *Phacopsis lesdainii* Vouaux (lichenicolous Ascomycetes, Leotiales)

by

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Abstract: The new genus *Echinodiscus* Etayo & Diederich is introduced to accommodate the lichenicolous ascomycete *Phacopsis lesdainii* Vouaux, and the new combination *E. lesdainii* (Vouaux) Etayo & Diederich is proposed. As the holotype has been destroyed, a neotype is selected for this fungus.

Introduction

While preparing a revision of the lichenicolous genus *Skyttea* (Diederich & Etayo, in prep.), the authors were able to examine several specimens of a poorly known lichenicolous ascomycete, *Phacopsis lesdainii* Vouaux. This species was originally collected in northern France, near Dunkerque, but the type specimen was lost, and no other specimen had been known until recently. Since its original description (Vouaux 1912-14), almost nothing has been written about this fungus, which is even missing in the recent revision of the genus *Phacopsis* (Triebel et al. 1995). It is, however, easily recognized by its lichenicolous habitat on species of *Lecania*, and especially by its unusual violet hymenial pigment. As this fungus cannot be accommodated in any known genus, a new genus for it is described here.

Material and methods

The specimens examined are located in the institutional herbaria E and UPS.

The morphological characters of dry herbarium specimens have been studied with a dissecting microscope at a strong magnification (x 40 or 80). The microscopical examination (including microscopical measurements) was carried out using hand-made sections in water. The excipular and hymenial pigment have been studied in water, in 5-10% KOH (K) and in concentrated nitric acid (N). The iodine reaction has been tested in Lugol's reagent, with (KI) or without (I) pre-treatment with KOH.

Results

Echinodiscus Etayo & Diederich gen. nov.

Ascomata lichenicola, apothecioidea, disco plano et convexo, nigro, furfuraceo, margine indistincto. Excipulum reductum, e textura prismatica, lateraliter violaceum, K+ caesio-griseum, N+ rubro-

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aurantiacum, pilis hyalinis simplicibus longis; hymenium partim violaceum, I- et KI-. Paraphyses simplices, septatae, pilis similibus excipuli pilis immixtes. Asci clavati, stipitati, tunica uniformiter tenui, apicaliter haud incrassata, I-. Ascosporae hyalinae, non-septatae, ellipsoideae.

Type: *Echinodiscus lesdainii* (Vouaux) Etayo & Diederich.

Ascomata apothecioid; disc plane to convex, blackish, slightly furfuraceous; margin normally indistinct. *Exciple* reduced, of textura prismatica, laterally with a violet, K+ bluish grey and N+ reddish orange pigment, with large, hyaline, simple hairs (which are partly covered by a gelatinous sheath). *Hymenium* partly violet, I- and KI-. *Paraphyses* apically not tapered, simple, septate, generally intermixed with hairs similar to those arising from the exciple. *Asci* clavate, with a large stalk, ascus wall uniformly thin, apically not thickened, I-. *Ascospores* hyaline, simple, ellipsoid. *Conidiomata* not seen.

Observations: By its minuscule, blackish and hairy apothecia and the small, simple, hyaline ascospores, *E. lesdainii* could well be confused with species of *Skyttea* or *Rhymbocarpus*. A closer examination reveals, however, a very different type of exciple, hymenium, paraphyses, asci and pigments, and it is clear that this fungus cannot be included in one of these, or other leotialean genera with lichenicolous species.

E. lesdainii belongs to the Leotiales. It is similar in some respects to *Rhymbocarpus geographici* (J. Steiner) Vouaux, from which it differs by the more erumpent, not perithecium-like apothecia, the characteristic excipular and hymenial hairs, a different ascus type, and the unusual violet hymenial and excipular pigment. Most other lichenicolous leotialean fungi have dark excipular pigments, and none of them has that kind of exciple or hymenium, or the same violet pigment. We don't know of any genus of non-lichenicolous leotialean fungi resembling *E. lesdainii*. Therefore the description of a new genus seems appropriate.

Echinodiscus lesdainii (Vouaux) Etayo & Diederich comb. nov. (Fig. 1)

Basionym: *Phacopsis lesdainii* Vouaux [as '*lesdaini*'], *Bulletin trimestriel de la Société mycologique de France* 30: 145 (1914); type: the type specimen was cited in the protologue as 'Sur thalle de *Lecania erysibe* à Fort-Mardyck (Nord). (D[r] Bouly de Lesdain)'; as Bouly de Lesdain's herbarium was destroyed in 1940 and no material of this taxon is present amongst Vouaux's remaining material (Rondon 1970), the type must be considered to be lost; as no other specimen was cited in the protologue, we herewith design a recently collected specimen as the neotype: Ireland, Fermanagh (VC H33), Enniskillen, Castle Coole, Gurtgonell Plantation, on *Lecania cyrtella*, on *Sambucus* twigs, vii 1993, *Coppins* 15732 & *O'Dare* (E - neotypus; hb. Diederich - isoneotypus).

Ascomata apothecioid, semi-immersed to superficial, broadly attached, 50-100(-150) µm diam., roundish to irregularly compressed, dispersed or crowded in compact groups of several apothecia; disc plane to convex, rarely concave, greyish to blackish, slightly furfuraceous due to the hairs; margin normally indistinct, sometimes slightly prominent, concolorous to the disc. *Exciple* reduced, 10-15 µm wide, of textura prismatica, laterally with a violet, K+ bluish grey and N+ reddish orange pigment, with large, hyaline, simple hairs (which are partly covered by a gelatinous sheath), tapered to the apex, 25-50 x 2.5-3.5 µm. *Hymenium* 35-43 µm tall, with the same violet pigment, which is most intense in the upper part, I- and KI-. *Paraphyses* simple, septate, 1.5-2 µm diam., intermixed with hairs similar to those of the exciple. *Asci* clavate, with a large stalk, 36-40 x 7-8.5 µm, ascus wall uniformly thin, apically not or slightly thickened, I-; ascogenous hyphae with croziers. *Ascospores* hyaline, simple, ellipsoid, sometimes curved, with several lipid drops, 5.5-8.5 x 2.5-3 µm.

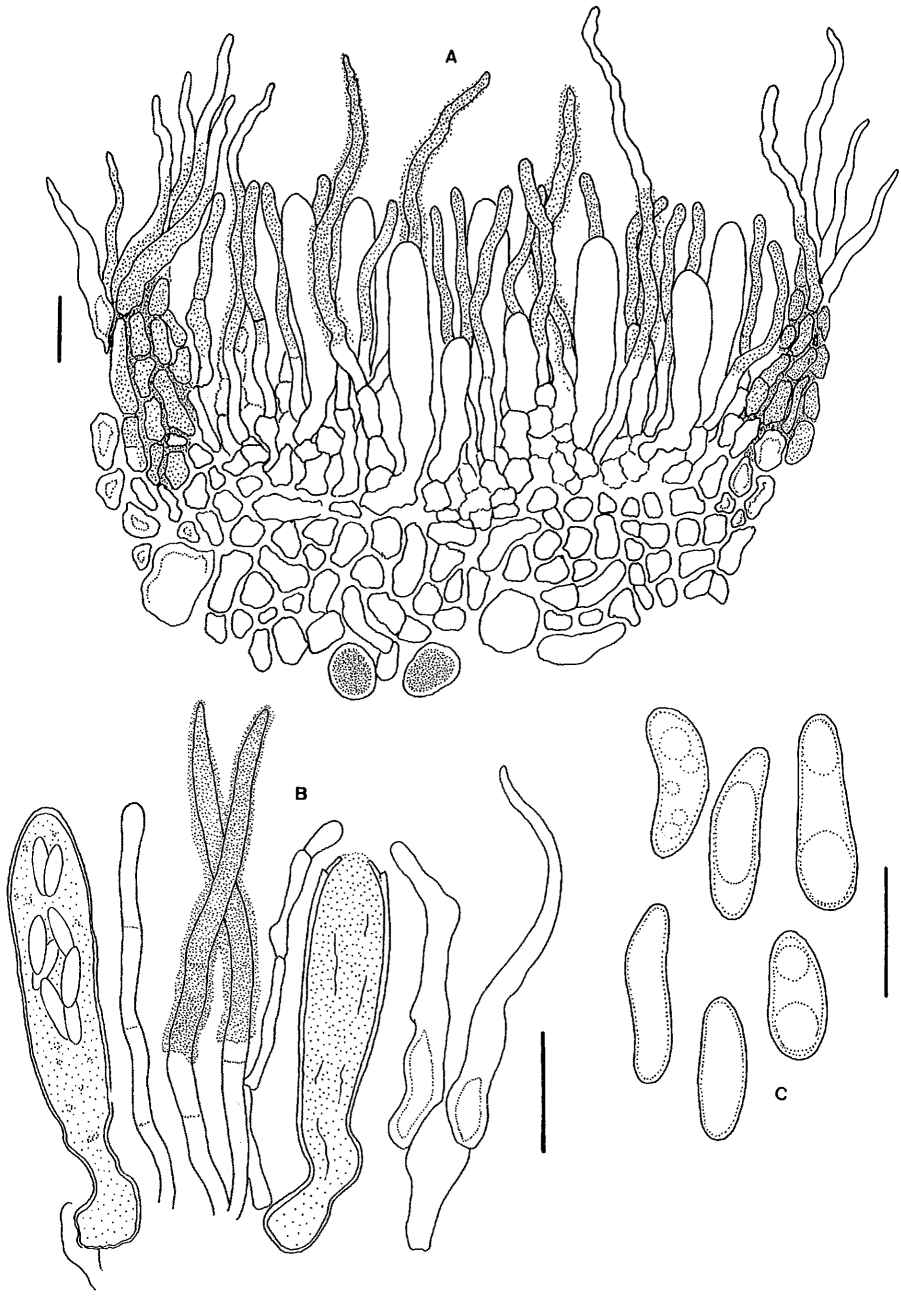


Fig. 1. *Echinodiscus lesdainii* (neotypus): A, Section through apothecium; B, Asci, paraphyses, hymenial and excipular hairs; C, Ascospores. Scales: A-B = 10 µm, C = 5 µm.

Hosts: *Lecania cyrtella* (Ach.) Th. Fr., *L. cyrtellina* (Nyl.) Sandst. and *L. erysibe* (Ach.) Mudd (thallus).

Distribution: France (dept. Nord), Great Britain (Scotland), Ireland and Sweden (Gotland).

Observations: *Echinodiscus lesdainii* is well characterized by the minuscule ascomata with a thin hairy exciple and the hairy hymenium, the unusual, violet, K+ bluish grey and N+ reddish orange pigment, the thin-walled, I- asci, the small simple ascospores, and the hosts, species of *Lecania*.

Additional specimen examined: Great Britain: V. C. 80, *Roxburgh*: Newton St Boswells Wood, on *Lecania cyrtellina*, viii 1993, *Coppins* 16015 (E). - Sweden: Gotland, par. Alsbog, near the church, on *L.* cf. *cyrtella*, 1920, *Degelius* s. n. (UPS).

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