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

by

Javier ETAYO ¹) and Paul DIEDERICH ²)

**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-

---

¹) Navarro Villoslada 16, 3º dcha, E-31003 Pamplona, Spain (jetayosa@pnte.cfnavarra.es).
²) Musée national d’histoire naturelle, rue Munster, L-2160 Luxembourg (paul.diederich@ci.educ.lu).
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-. Ascopora more 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’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.


Acknowledgments

We wish to thank warmly Dr Brian Coppins and Prof. Rolf Santesson for sending us the recent specimens of E. lesdainii, and Dr Coppins and Mr Hans-Otto Baral for reading and commenting on a draft version of the manuscript. The first author is indebted to D. G. I. C. Y. T. for collaboration with the project BP 96-1115-C04-01.

References


