

Luciotrichus lasioboloides, a new genus and a new species of the Pezizales

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Galán R. and Raitviir A. (1994): *Luciotrichus lasioboloides*, a new genus and a new species of the Pezizales. – *Czech Mycol.* 47: 271–275

A new genus *Luciotrichus*, related to the setose genera of the Pyronemataceae Corda em. Korf, is proposed with *Luciotrichus lasioboloides* sp. nov. as the type species, collected in Spain on dead leaves of *Pistacia* and, incidentally, of *Quercus*.

Key words: Pezizales, taxonomy, new taxa, Spain.

Galán R. and Raitviir A. (1994): *Luciotrichus lasioboloides*, nový rod a druh řádu Pezizales. – *Czech Mycol.* 47: 271–275

Vystavuje se nový rod *Luciotrichus*, příbuzný setósním zástupcům čeledi Pyronemataceae Corda em. Korf. Typový a současně jediný druh *Luciotrichus lasioboloides* sp. nov. byl sbírán ve Španělsku na odumřelých listech *Pistacia*, případně *Quercus*.

INTRODUCTION

The first author discovered a number of minute, setose fungal fruitbodies on decomposed fragments of several leaves of *Pistacia lentiscus* shrubs and *Quercus faginea* trees. Under the light microscope, operculate asci typical for the Pezizales were seen. Macroscopically, the minute turbinate apothecia were similar to those of *Lasiobolus*, particularly *L. diversisporus* (Fuckel) Sacc., but they were microscopically significantly different.

We sent part of this collection to Mr. Jiří Moravec asking him to comment on the possible relationships of our material to the large and variable genus *Cheilymenia* Boud. em. J. Moravec (Moravec, 1990). He kindly answered that this fungus is not related to *Cheilymenia* and that our collection could represent a new genus of the Pyronemataceae. It differs from *Cheilymenia* in having a different apothecial structure consisting of much smaller cells, short asci, very thin paraphyses, a different ascospore ornamentation and, especially, in the absence of the yellow refractive colour of mature ascospores when stained with lactophenol cotton blue. Moreover, the apothecia are very small and bear slender but very thick-walled

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hairs. Instead, it is very similar to the genus *Mycoarctium* Jain et Cain which has, however, asci without a functional operculum.

We, therefore, propose the new genus *Luciotrachus* which we temporarily assign to the family Pyronemataceae Corda em. Korf (Korf, 1972), until the classification system for the Pezizales is finally defined although, currently, its relationships seems to be near the setose genera ascribed to the Scutellinioideae Clem., Otideaceae Eckbl. by Korf & Zhuang (1991).

Methods are the same as described by Galán, Raitviir, Ayala & Ochoa (1994).

Luciotrachus R. Galán & Raitv. genus novum

Apothecia sessilia, turbinata vel cupulata, pallide colorata, extus longe rigidipilosa. Pili hyalini, conici, valde crasso-tunicati, multiseptati. Asci operculati, cylindraco-clavati, inamyloidei, octospori. Sporae ellipsoideae vel late ellipsoideae, non guttulae, aliquando "de Bary bubble" praeditae, verrucosae. Paraphyses filiformes, apicibus rectis vel subcurvatis.

Mycoarctium Jain & Cain similis, ascis operculatis differt.

Typus generis: *Luciotrachus lasioboloides* R. Galán & Raitv.

Etymology: refers to the shining setae.

Luciotrachus lasioboloides R. Galán & Raitv. species nova (Figs. 1-26)

Apothecia sessilia, turbinata vel cupulata, 0.3-0.4 mm in diametro, flavo-virida,, extus longe rigidipilosa. Pili hyalini, conici, valde crasso-tunicati, multiseptati, 150-300 x 10-12(-16) μm . Asci operculati, cylindraco-clavati, inamyloidei, octospori, 120-150 x 13.5-18.5 μm . Sporae ellipsoideae vel late ellipsoideae, non guttulae, aliquando "de Bary bubble" praeditae, verrucosae, 15-17 x 8 μm . Paraphyses filiformes, hyalinae, apicibus rectis vel subcurvatis, 1.5-2 μm in diametro.

Holotypus: ad folia dejecta Pistaciae lentiscus et Quercus fagineae, via Puerto de Galis-Ubrique, 50 km extra Ubrique, Parque Natural de los Alcornocales, Cádiz, Hispania, 30.11.1993, R. Galán & al. (RG 6808). Isotypi in herbario J. Moravecii (J. Mor.) asservantur.

Apothecia superficial, sessile, turbinate to cupulate with a plane hymenium, 0.3-0.4 mm diam., pale yellowish green in colour, externally covered by long, stiff, white, glistening hairs. Ectal excipulum of textura angularis at the base and flanks, textura prismatica at the margin; cells hyaline, thin-walled, 5-12 x 5-8 μm . Hairs conical, simple to branched, with a simple or sometimes slightly forked base, where often strongly swollen above and then gradually tapering to an acute apex, hyaline, with very thick walls and numerous thin septa, 150-300 μm long, basally 10-12 μm diam., swellings up to 16 μm diam., apex 2.5 μm diam., walls 3-4 μm thick. Asci operculate, cylindric-clavate, not blued in MLZ, with a deep dextrinoid content



Fig. 1 *Luciotrichus lasioboloides*. Apothecia in their natural habitat.

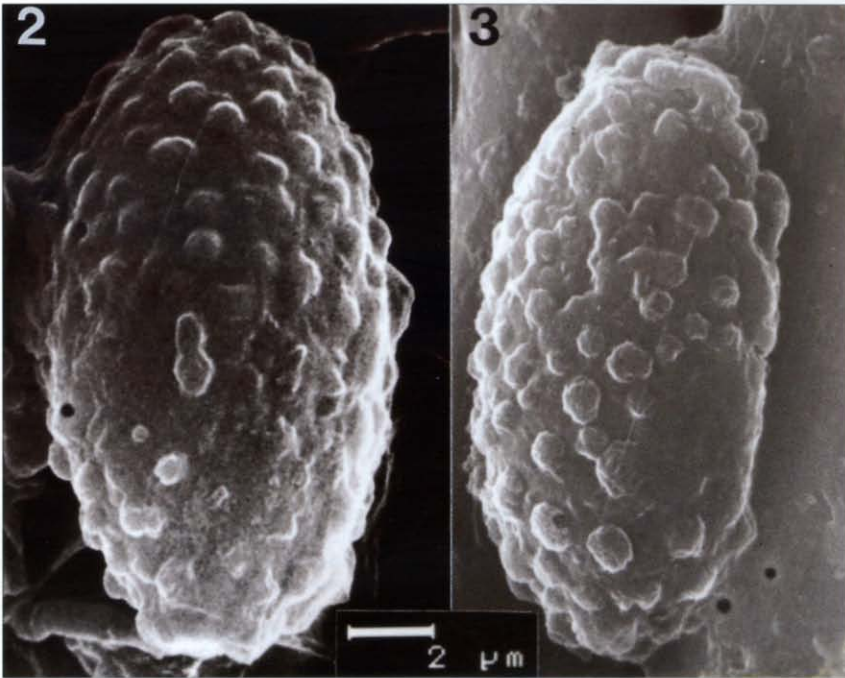


Fig. 2 – 3 *Luciotrichus lasioboloides*. Ascospores in SEM.

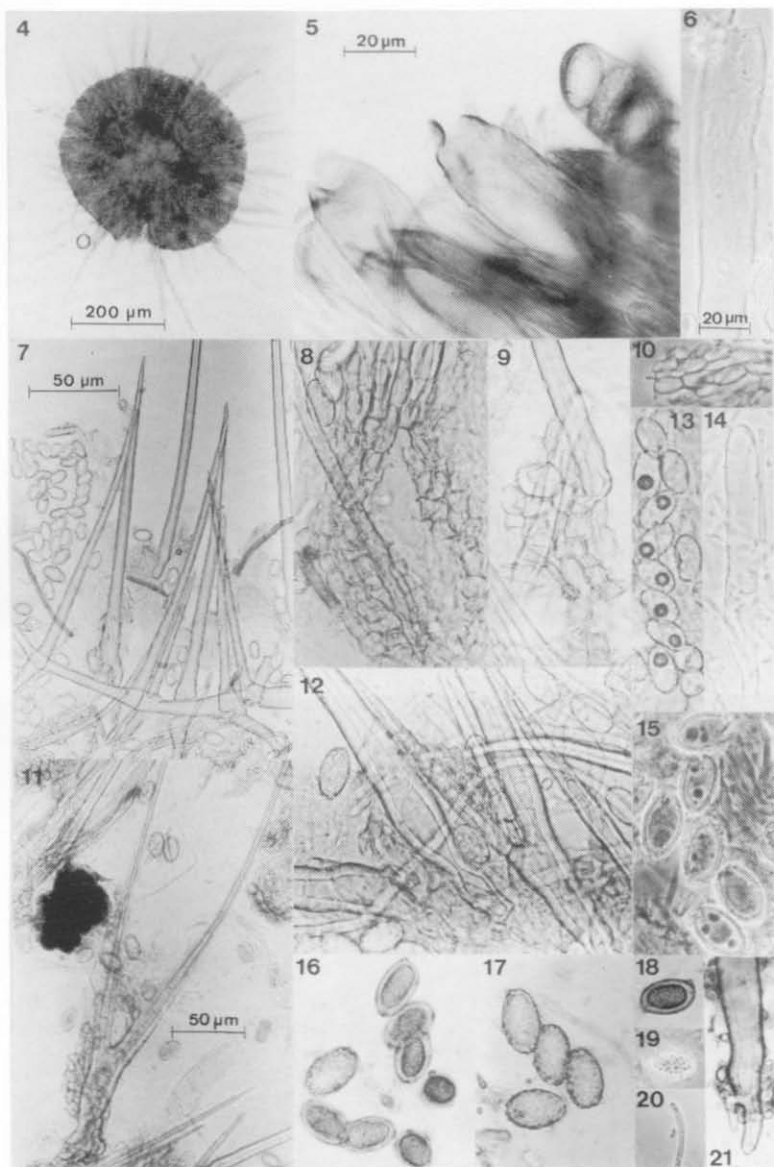


Fig. 4 – 21 *Luciotrichus lasioboloides*. 4. Apothecium; 5. Asci with opercula; 6. Empty ascus showing the operculum; 7. Setose margin of the excipulum and free spores; 8-10. Fragments of the ectal excipulum, 11. Bifurcate seta, 12. Two simple and one branched setae; 13. Spores containing de Bary bubbles; 14. Empty ascus and a paraphysis; 15. Ascospores with several stained inclusions; 16. Immature spores with a dextrinoid content; 17. Ascospores showing an ornamented surface; 18. Immature spore; 19. External surface of a spore; 20. Apex of a paraphysis; 21. Bifurcate base of a seta. (Figs. 6, 10, 14, 15, 19 & 20 in phase-contrast; 4, 8 & 12 in tap water; 5 in Congo red; 6-10, 13-15 & 19-20 in MLZ; 16-18 in Lugol; 21 in Cresyl blue). Scale bar on fig. 5 is valid also for figures 10 & 15-18. Scale bar on fig. 6 is valid also for figures 8, 9, 12-14 & 19-21.

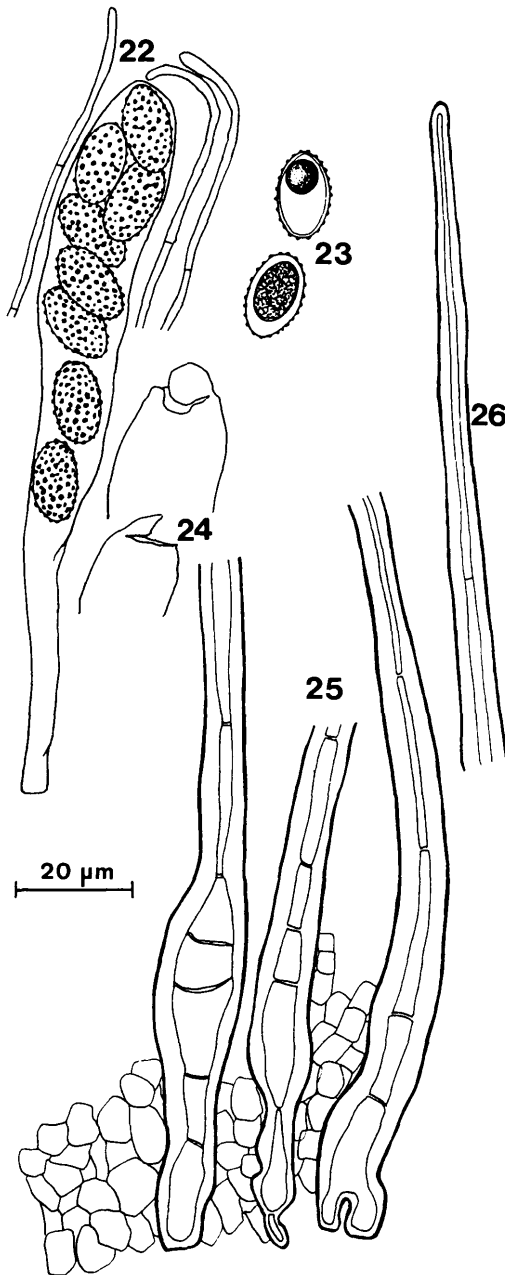


Fig. 22 – 26 *Luciotrichus lasioboloides*. 22. A ripe ascus and apices of three paraphyses; 23. Two ascospores in optical section, showing a de Bary bubble (top) and a dextrinoid body (bottom); 24. Two ascus tips showing operculum; 25. Excipular cells and three basal parts of setae; 26. Pointed apex of a seta.

when immature, 8-spored, 120-150 x 13.5-18.5 μm . Ascospores ellipsoid to broadly ellipsoid, hyaline, without oil drops, often with one de Bary bubble, ornamented with prominent cyanophilic warts, 15-17 x 8 μm . Paraphyses cylindrical, apically straight or slightly bent, hyaline, 1.5-2 μm diam.

On fallen decaying leaves.

Specimen examined: On fallen leaves of *Pistacia lentiscus* L. or, incidentally, of *Quercus faginea* subsp. *broteroi* (Coutinho) A. Camus, at the 50 km mark on route no. 3331 from Puerto de Galis to Ubrique, Parque de los Alcornocales, Cádiz, Spain, 30.11.1993, R. Galán & al. (Holotype RG 6808, isotype in the herbarium of J. Mor.).

This peculiar fungus bears a strong resemblance to *Mycoarctium ciliatum* Jain & Cain, differing mostly in the larger and differently ornamented spores – with a strongly warted perispore instead of the subreticulate ornamentation of *M. ciliatum* – and presence of a well-developed functional operculum in the ascus apex. Although the two species have such common features as habit of apothecia, absence of carotenoid pigments, presence of de Bary bubbles in ascospores with a cyanophilic ornamentation, we feel it is impossible to place species with asci having functional opercula and species with asci without them into one and the same genus.

The genera *Lasiobolus* Sacc. and *Ochotrichobolus* Kimbrough & Korf have operculate asci, very similar to those of *Luciotrichus*. However, the smooth spores and typically non-septate hairs of the former, and the particular construction of the excipulum of the latter allow us to distinguish easily between these genera.

The genus *Trichophaeopsis* Korf & Erb comprises species with a very similar habitat, shape, colour and structure of apothecia, shape of apothecial hairs, and may also have ascospores possessing an ornamented perisporium as, for instance, *Trichophaeopsis latispora* J. Moravec (Moravec, 1979), but differs in the “brownish hairs and more prominent ascospore ornamentation”, according to the findings of Mr. Moravec, who has compared our fungus with the type material of *T. latispora*.

A c k n o w l e d g e m e n t s

The authors express their gratitude to Mr. Jiří Moravec for helpful comments and to Dr. R. P. Korf for the critical reading of the manuscript, and also to Mr. J. T. Palmer for help in reviewing the English text. R. Galán thanks the Education and Science Ministry of Spain for financial assistance to the research Project PB 90-0986 “Estudio de los hongos que fructifican en el Parque natural de los Alcornocales (Andalucía, España)”.

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