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INTERESTING SPECIES OF MACROMYCETES IN FORESTS OF MUNIKA PINE (*PINUS LEUCODERMIS* ANT.)

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Macromycetes collected by the authors in a stand of *Pinus leucodermis*, both from the soil and the wood of this pine, are presented. An annotated list of lignicolous species on *P. leucodermis*, published previously from the same and other localities, but not found during the authors' excursion, is added. Four of the species determined have not yet been recorded in the literature for Yugoslavia: *Athelia epiphylla*, *Hyphodontia alutaria*, *Chalciporus pseudorubinus*, *Hygrophorus gliocyclus*, although the first two are apparently not rare in this country. Two finds published earlier, which could not be determined with certainty, are discussed.

Introduction

Munika pine (*Pinus leucodermis* Ant.) is endemic in the Balkan peninsula and the southernmost part of the Apennine peninsula. In Yugoslavia its area includes several mountains in the Republics of Bosnia and Herzegovina, Monte Negro, Serbia (particularly the Province of Kosovo) and Macedonia. A number of fungal species growing on the wood of munika in Yugoslavia, predominantly macromycetes, has been published (Pilát 1937, Pilát and Lindtner 1938, 1939, Litschauer 1939, Černy 1972, Prljinčević 1972, Grujoska 1973, Prljinčević and Đorović 1974, Tortić 1977) but only a single terricolous fungus, *Rhizopogon luteolus* Fr. et Nordh. emend. Tul., has been mentioned so far as growing on the soil in munika forests in Koritnik mountain (Pilát 1937).

The present authors have recently had the opportunity to make mycological investigations in a stand of *Pinus leucodermis* and report

here their finds of larger fungi, both on soil and wood. They also give an annotated list of lignicolous fungi poblished from Yugoslavia as occurring on munika pine.

Materials and Methods

Collections were made on 11 Oct. 1978 in a pure stand of *Pinus leucodermis* on the southern slopes of Ošljak mountain, a northern branch of Šar mountain, from the pass Prevalac upwards, at altitudes between 1540 and 1640 m. Prljinčević (1972) and Grujoska (1973) mention Ošljak and Prevalac among the localities on Šar which they investigated; very probably they visited also this place or thereabouts. (Šar is situated north of Skopje and forms the border between the Republic of Macedonia to the south and the Province of Kosovo in the Republic of Serbia to the north). The season was rather dry and not as many species were found as one could expect at that time. Terricolous fungi were growing mostly at the margin of the forest, or among the heaped up fallen branches which still retained considerable moisture; some lignicolous ones were also found in such heaps. Voucher specimens are deposited in the herbarium of the Botanical Department, Faculty of Science, University of Zagreb (ZA), some also in the private herbarium of the junior author (designated here as: herb. Sy). A few common species were only noted, not collected. Mrs Magdalena Cekova, MSc. Biol. (Biological Faculty, Skopje) and Dr. Atanas Gudeski (Forestry Faculty, Skopje) also took part in the excursion and both helped very much in collecting the material for which we render here our warmest thanks.

Part of the species published earlier could not be checked owing to the lack of accessible exsiccata, and where it was necessary, we have only changed obsolete names to modern ones. The material published by Pilát (1937) and Pilát and Lindtner (1938, 1939) is, however, preserved at the Natural Sciences Museum, Beograd (BEO) and the National Museum, Praha (PRM). Specimens in BEO, as well as two specimens by Černý (1972), the duplicates of which he sent to ZA, were revised by the senior author (M. T.). Here also correction of names was necessary for some species. Some exsiccata were determined or revised by K. Hjortstam (Alingsås, Sweden) and Dr. E. Parmasto (Tartu, Estonian SSR). Their help is here gratefully acknowledged.

In the list of species we present our collections at Ošljak of terricolous as well as of lignicolous fungi on *P. leucodermis* each in alphabetical order, with literature citations if they were published for this pine from the same or from other localities in Yugoslavia. After our finds follow, also alphabetically, species mentioned in the literature as growing on munika pine which we did not find during our excursion. Notes on the distribution of most species in Yugoslavia are added as well as short descriptions of some rarer or less known ones. The herbaria where specimens are deposited are cited, too.

List of species collected at Ošljak by the authors

Terricolous fungi

Chalciporus pseudorubinus (Thirring) Pilát et Dermek. ZA, herb. Sy.

We found only three specimens of this small bolete, cited in the literature as very rare (Pilát and Dermek 1974). According to the description the diameter of the cap is 1—2.5 cm, but our largest was 4.5 cm. The upper surface was brownish or rusty yellow, finely pilose. Tubes and pores were bright red; the paper in which fresh specimens were enveloped became blood red. Stipe thin, in upper part covered by minute reddish dots, lower down the colour was similar to that of the cap, but lighter. Flesh whitish to yellowish, red immediately above the tubes. Spores narrow elliptic, spindle-shaped, 11—13.5 (15) × 4.5—5.5 μm (in the literature 10—14 × 4—6 μm).

This species was known up to now from several places in lower Austria, near Wiener Neustadt, and from one locality in Czechoslovakia, near the Austrian border (Pilát and Dermek 1974). Our find is the first published for Yugoslavia and the distribution area of this species is thereby extended far to the south. On known localities it grows under *Pinus nigra* with which it forms mycorrhiza. Therefore *P. leucodermis* is its second, unknown until now, mycorrhizal partner.

Chroogomphus rutilus (Schaeff. ex Fr.) O. K. Miller. Herb. Sy.

Only one specimen was noted. This is a frequent mycorrhizal partner of several two-needle pines and is surely not uncommon under *P. leucodermis*, too.

Cystoderma carcharias (Pers. ex Secr.) Maubl. Herb. Sy.

Only one specimen was found. It occurs in Yugoslavia in various conniferous and mixed forests and is probably not rare in the locality investigated.

Hygrophorus gliocyclus Fr. ZA, herb. Sy.

Unfortunately, in this case, too, only one specimen could be found. This interesting species is characterized by a very glutinous layer covering the cap and the stipe, forming a ring at the upper part of the stipe. The weather being rather dry, the specimen when fresh was only slightly sticky, but the glutinous layer swelled up when a fragment of the exsiccate was placed in water. The colour of the fruitbody was light yellowish, and of lamellae light rosy. Spores 7.5—9 × 4.5—5 μm.

Some authors, as Ricken (1915), Cetto (1976) distinguish two species, *H. gliocyclus* and *H. ligatus*, the first growing in pine forests, rarely broadleaved ones, and the second in spruce forests. The differences in descriptions are slight. Moser (1978) considers *H. ligatus* a synonym of *H. gliocyclus*.

This fungus was found two or three times by some collectors near Ljubljana and even brought to a mushroom exhibition (information by Dr. V. Hudoklin, Ljubljana). The finds were not published and we do not know whether any exsiccate exists.

Lepista nebularis (Fr.) Harmaja

Frequent in various broadleaved and coniferous forests in late autumn, growing usually in large groups, as it also did at Ošljak.

Suillus collinitus (Fr.) O. Kuntze. ZA, herb. Sy.

Seems to be less widely spread than related *S. granulatus* and *S. luteus;* all three form mycorrhiza with two-needle pines. In this locality, however, *S. collinitus* was rather abundant. We observed it at that time also on Vodno mountain near Skopje in a wood of *Pinus nigra.*

Tricholoma imbricatum (Fr. ex Fr.) Kummer. ZA

It forms mycorrhiza mostly with various *Pinus* species, as was here the case, too.

Lignicolous fungi (all on *Pinus leucodermis*)

Athelia epiphylla Pers., on a prostrate branch. ZA

The same day we collected it in another locality on Šar, Gine vode, on a stump of molika pine (*Pinus peuce* Griseb.). Both specimens were determined by K. Hjortstam (Alingsås). The species, which grows on various dead wood as a whitish, thin pellicula, is taken here in the broader sense after Eriksson and Ryvarden (1973). It was not yet published for Yugoslavia, but is without any doubt frequent here as it is in many other countries. For instance, it was recently collected many times in the Plitvička jezera National Park on wood of *Abies, Alnus, Fagus* and *Picea.*

Fomitopsis pinicola (Sw. ex Fr.) P. Karst. Three large fruitbodies on a log. ZA, herb. Sy.

On *P. leucodermis* it was noted in mountains Šar and Prokletije (Prljinčević 1972, Grujoska 1973 — both as *Ungulina marginata* — Prljinčević and Đorović 1974). Very frequent in Yugoslavia and elsewhere particularly on conifers, but also on hardwoods, as a saprophyte on dead wood and a parasite on injured parts of living trees.

Ganoderma atkinsonii Jahn, Kotl. et Pouz. A young fruitbody on a stump. The specimen was revised also by Drs. F. Kotlaba and Z. Pouzar (Prague). It was deposited at ZA, but, unfortunately, it was recently destroyed by insects.

This beautiful fungus, growing predominantly on dead wood (stumps, dead trunks), exceptionally on living trees of *Abies alba,* more rarely on other conifers or even broadleaved trees, was not earlier distinguished from *G. lucidum* and was described as new only very recently by Jahn, Kotlaba and Pouzar (1980) who also listed all known localities in Yugoslavia, including the above; some finds were already published as *G. lucidum* (Tortić 1966, Tortić and Lisiewska 1971). The collection at Ošljak is particularly interesting since the substrate, *Pinus leucodermis,* was not known for this species; in other Yugoslav localities it grew on fir stumps.

Gloeophyllum sepiarium (Wulf. ex Fr.) P. Karst., on a prostrate trunk. ZA, herb. Sy.

A frequent species on dead wood of conifers. On *P. leucodermis* reported by Prljinčević (1972), Grujoska (1973) — both as *Lenzites sepiaria* — and Prljinčević and Đorović (1974) from Šar and Prokletije Mts.

Gymnopilus penetrans (Fr. ex Fr.) Murr. on a stump, two specimens. ZA.

It occurs in Yugoslavia in fir forests on dead wood, mostly stumps of *Abies alba* (Tortić 1966). Here it was found for the first time on *P. leucodermis.*

Heterobasidion annosus (Fr.) Bref., several specimens on a stump. ZA, herb. Sy.

Prljinčević (1972), Grujoska (1973), Prljinčević and Đorović (1974) report it on *P. leucodermis* from Šar and Prokletije Mts. under the names of *Ungulina annosa* or *Fomitopsis annosa.* A very frequent and dangerous parasite on conifers, growing also as a saprophyte, especially on stumps.

Hyphodontia alutaria (Burt.) John Erikss., on detached bark of munika. ZA

Resupinate, with finely tuberculate surface, whitish. Microscopically characterized by two types of cystidia: one is very similar to hyphae, with septa and clamps and a globular head, protruding far above the hymenial layer; the other is short, ending in a suddenly narrowed needle-like part incrusted at the tip (lagenocystidia). It was not yet published for Yugoslavia, but it was found also near Zagreb, on a stump of *Pinus strobus,* and in three places in the Plitvička jezera National Park on rotten wood of *Abies alba* and *Picea abies,* and is probably not rare in this country. The specimens from those localities are also preserved at ZA.

Hypholoma fasciculare (Huds. ex Fr.) Kummer. A large cluster on a stump. Herb. Sy.

Very common and frequent, growing mostly on hardwoods, more rarely on conifers and widely distributed in all our forests. Not yet noted on *Pinus leucodermis.*

Lentinellus flabelliformis (Bolt. ex Fr.) P. D. Orton. Small fruitbodies of this fungus were growing in large quantities on branches thrown in a heap. ZA

This species has already been collected in several places in Yugoslavia, on prostrate branches of fir and spruce, but not all have been published yet. Pilát and Lindtner (1939) list *Lentinus bissus* f. *auriscalpium* on rotten wood of a conifer from: »supra Sevce, ad pagum m. Ošljak« which might be our locality or at least near it. Their find was perhaps identical with ours, but since the exsiccate was not available, we could not check either the fungus or the wood.

Leucogyrophana pseudomollusca (Parm.) Parm., on a stump. ZA. It was published on P. *leucodermis* already by Pilát and Lindtner (1938) from Ostrvica mountain. All localities in Yugoslavia known so far, including the one at Ošljak, are listed by Tortić (1981).

Stereum sanguinolentum (Alb. et Schw. ex Fr.) Fr., on a prostrate twig. ZA.

Frequent on dead wood of conifers in Yugoslavia and other countries of Europe. Under the same name it was published as occurring on *P. leucodermis* in Šar and Prokletije Mts. by Prljinčević (1972), Grujoska (1973), Prljinčević and Đorović (1974).

List of lignicolous fungi on *Pinus leucodermis* according to the literature and herbarium specimens

Amylocorticium sp. Koritnik mountain. BEO herb. Lindtner 3104. Part of the collection also at PRM 485722.

Pilát (1937) published this find under the name of *Peniophora sulphurina* (Karst.) v. Höhn. et Litsch. (= *Ceraceomyces sulphurinus* (P. Karst.) J. Erikss. et Ryv.). It belongs, however, clearly to the genus *Amylocorticium* which is characterized by monomitic hyphal system with clamped hyphae, hyphoid cystidia (not present in all species) and narrowly ellipsoid, cylindric or allantoid, amyloid spores. K. Hjortstam (Alingsås), who revised the specimen, is of the opinion that it could probably represent *A. suaveolens* Parm. The characteristic persistent smell is absent — which could be explained by the age of the material — otherwise the original diagnosis by Parmasto (1968) fits for the most part rather well including the scarcity of the cystidia. The spores, however (5—6 × 2—2.5 μm.) seem to be too broad and straight, more like those in the closely related *A. subsulphureum* (P. Karst.) Pouzar, in which species, on the other hand, cystidia are not infrequent.

Comparative material is needed in order to identify this collection with certainty. Since it was published already, we mention it here nevertheless, even if only under the generic name. In any case, it represents a species not yet known in Yugoslavia and also generally very rare.

Armillariella mellea (Vahl. ex Fr.) P. Karst. (s. l.)

Šar, Prokletije Mts. (Černý 1972, Grujoska 1973, Prljinčević and Đorović 1974). Very common and frequent parasite and saprophyte on a great number of deciduous and coniferous trees.

Chaetoporellus latitans (Bourd. et Galz.) Bond. et Sing. Ostrvica. BEO herb. Lindtner 5259.

The localities in Yugoslavia known for this species, three in number, including Ostrvica, were published by Tortić (1977). Later, she found and determined another collection by Lindtner, on *Fagus,* from the Južni Kučaj mountain range (BEO 2807 and herb. Lindtner 6601).

Dacryobolus karstenii (Bres.) Oberw. ex Parm. Ostrvica. BEO, PRM.

Pilát and Lindtner (1938) published it under the older name of *Stereum karstenii* Bres. The specimen in BEO (without number) was revised by Tortić (1980).

Ditiola radicata (Alb. et Schw.) Fr. Koritnik (Pilát and Lindtner 1938). The specimen is preserved at PRM and was not seen by the authors.

Gloeocystidiellum citrinum (Pers.) Donk. Ostrvica. BEO, PRM.

Published from that locality by Pilát and Lindtner (1938) as *Gloeocystidium alutaceum* (Schrad.) B. et G. Two specimens in BEO, herb. Lindtner 4253 and 4261, were revised. We did not find this species at Ošljak, but collected it the same day in another locality in Šar mountain, Gine vode, on the wood of *Pinus peuce*. It is rather frequent in Yugoslavia on wood of conifers and hardwoods, although most localities have not been published yet.

Hirschioporus abietinus (Dicks. ex Fr.) Donk.

Šar, Prokletije (Prljinčević 1972, Grujoska 1973, both as *Coriolus abietinus*, Prljinčević and Đorović 1974). Pilát and Lindtner (1938) published it from Ostrvica mountain on a conifer and we thought this might be also *P. leucodermis*. However, in the revised specimen BEO 3407 and herb. Lindtner 4256 the wood was that of *Picea abies*, as stated on the envelope. This species is very frequent on dead coniferous wood.

Hyphodontia aspera (Fr.) John Erikss.

Koritnik (Pilát 1937 as *Odontia arguta* (Fr.) Quél.), Ostrvica (Pilát and Lindtner 1938 as *Odontia arguta*). The revision of the specimen from the first locality, BEO herb. Lindtner 2051, as well as of that from the second, BEO herb. Lindtner 4254, showed that *H. aspera* was more likely, since no lagenocystidia could be found. In the first specimen many incrusted hyphal ends were observed, but they were quite different from true lagenocystidia.

Phaeolus schweinitzii (Fr.) Pat.

Šar, Prokletije (Prljinčević 1972, Grujoska 1973 — both as *Polyporus schweinitzii* — Prljinčević and Đorović 1974). It occurs in Yugoslavia mostly on five-needle pines: *Pinus strobus* and *P. peuce* as a parasite, but can grow also saprophytically.

Phellinus pini (Brot. ex Fr.) A. Ames

Prokletije (Prljinčević and Đorović 1974). A parasite of pines; very common on the Adriatic coast, mainly on *Pinus halepensis* (Tortić 1978).

Phlebia segregata (Bourd. et Galz.) Parm. Koritnik mountain. BEO, PRM.

Published by Pilát (1937) under the synonymous name of *Peniophora livida* (Fr.) Burt. and *P. livida* f. *lactinea*. The specimen from BEO herb. Lindtner 2020a was revised by K. Hjortstam (Alingsås) and those in PRM 485714 and 485717 by E. Parmasto (Tartu). Recently it was collected in the Plitvička Jezera National Park, too, on dead wood of *Abies alba* and *Picea abies*.

Phlebiopsis gigantea (Fr.) Jül. Ostrvica. BEO, PRM.

Pilát and Lindtner (1938) published it from this locality as *Peniophora gigantea* (Fr.) Massee. The exsiccate at BEO herb. Lindtner 4253 was revised. Rather spread in Yugoslavia on dead wood of conifers.

Poria lindbladii (Berk. et Br. ex Berk.) Cooke.

Šar, »Popovo prase«, on a stump of *Pinus leucodermis*, leg. A. Černý 3. 5. 1971, det. F. Kotlaba and Z. Pouzar 8. 7. 1981. Herb Černý (information in a letter by Dr. F. Kotlaba, Prague).

Pseudomerulius aureus (Fr.) Jül. Ostrvica, BEO. Šar, ZA.

As *Merulius aureus* published from Ostrvica by Pilát and Lindtner (1938) and from Šar mountain by Černý (1972), Prljinčević (1972), Grujoska (1973). A specimen from Ostrvica in BEO herb. Lindtner 4273 and the duplicate of the specimen from Šar which is preserved at ZA, were revised. In Yugoslavia this species has been found until now on very few localities; some of them are as yet unpublished.

Pseudotomentella nigra (v. Höhn. et Litsch.) Svrček

Ostrvica mountain (Litschauer 1939 as *Tomentella nigra* v. Höhn et Litsch.). The specimen is preserved at PRM and was not seen by the authors.

Schizophyllum commune Fr.

Prokletije (Prljinčević and Đorović 1974). Very common and wide spread on hardwoods, more rare on conifers.

Stereum hirsutum (Willd. ex Fr.) S. F. Gray

Prokletije (Prljinčević and Đorović 1974). The cited authors point out that this species is very rare on *Pinus leucodermis*. Although it is very common and frequent on hardwoods, it is indeed only exceptionally found on conifers.

Tomentella cinerascens (P. Karst.) v. Höhn. et Litsch.

Ostrvica (Litschauer 1939, as *Tomentella subcervina* Litsch.). The specimen is in PRM and was not seen by the authors. The name of this species and the one published by Litschauer as *Tomentella nigra* — see above — were modernized according to Domański (1978).

Tyromyces caesius (Schrad. ex Fr.) Murr. Ostrvica. BEO, PRM.

Pilát and Lindtner (1938) as *Leptoporus caesius*. Specimen in BEO herb. Lindtner 4257 was revised. Rather frequent species on various conifers.

Černý (1972) had published from Šar mountain on *Pinus leucodermis* as *Trametes* sp. a fungus which he later identified as *Leptoporus bulgaricus* Pilát; it is listed under that name by Prljinčević (1972).

The correct name for *L. bulgaricus* is *Dichomitus squalens* (P. Karst.) Reid. A part of the material collected by Černy is deposited at ZA, consisting of three fragments of wood with several very small fruitbodies in the first stage of development. Pores are already visible. Microscopical structure is very interesting: fruitbodies are made of sclerified generative hyphae with clamps and very narrow lumina, whilst the mycelium on wood from which the fruitbodies arise consists of solid or almost solid rarely branched hyphae without septa and clamps, apparently skeletals. Both types of hyphae are neither amyloid, cyanophilous nor dextrinoid, and remain also hyaline in cresyl blue. There are no traces of basidia or spores.

The structure described is quite different from that of *D. squalens*. Drs. F. Kotlaba and Z. Pouzar (Prague), who examined duplicate material from Černý's herbarium informed us in a letter that the sclerified hyphae reminded them of those in *Tyromyces undosus* (Peck) Murr. Still, there were differences in the appearance and structure of the fruitbodies; moreover, in the absence of spores the determination could not be certain. There is, however, another, as we believe, conclusive difference, since the hyphae in the material studied do not react in cresyl blue, whilst those in *T. undosus* turn red in that reagent. Therefore, for the moment, we do not know to which species or even genus this collection might belong.

For the sake of completenes we may add that Prljinčević and Đorović (1974) also published three micromycetes from *P. leucodermis: Cenangium abietis* (Pers.) Duby, *Herpotrichia nigra* Hart. and *Lophodermium pinastri* (Schrad.) Chev. They listed as lignicolous also *Clavaria aurea* Schaeff. and *Clavaria flava* Schaeff. (now in the genus *Ramaria*) which are in fact terricolous but, as other terricolous species often do, may occur on very rotten wood. Such was the case here, according to the cited authors.

Discussion and Conclusions

As could be expected, some of the species presented are abundantly spread in coniferous and even broadleaved forests, others are to be found only in pine forests, forming mycorrhiza with various pines, or growing on wood of *Pinus* or at least of conifers. Anyway, they are without any doubt only a small part of macromycetes occuring in forests of *Pinus leucodermis*. The ecological requirements of fungi in such forests have surely some particularities which should be studied, too. The appearance of rare species, far from their area of distribution as known now, promises that many interesting finds await future investigators.

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SAŽETAK

ZANIMLJIVE VRSTE MAKROMICETA U ŠUMAMA MUNIKE (*PINUS LEUCODERMIS* ANT.)

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U Jugoslaviji je do sada objavljeno nekoliko radova (vidi engleski tekst), u kojima se navode makromicete koje se razvijaju na drvu endemskog balkanskog bora munike (*Pinus leucodermis* Ant.), ali je od terestričnih gljiva munikinih šuma spomenuta u literaturi samo jedna vrsta, *Rhizopogon luteolus*.

Autori su u čistoj sastojini munike iznad sedla Prevalac na obroncima Ošljaka (sjeverni ogranak Šar-planine) sabirali više gljive na tlu i drvetu toga bora, pa ovdje izvješćuju o rezultatima svojih istraživanja. Uz to daju i popis lignikolnih gljiva na *P. leucodermis* dosad objavljenih u našoj literaturi; provjerili su i postojeće eksikate, koliko su bili pristupačni.

Od vrsta koje su odredili autori, među terestričnima osobito je zanimljiva *Chalciporus pseudorubinus* (Thirring) Pilát et Dermek, dosad poznata samo na nekoliko mjesta u Donjoj Austriji i na jednom u Čehoslovačkoj, gdje je rasla pod *Pinus nigra*. Našim nalazom proširen je njen areal daleko prema jugu, a ustanovljen je i nov mikorizni partner, *P. leucodermis*. *Hygrophorus gliocyclus* Fr., nađen je doduše, dva ili tri puta u okolici Ljubljane (saopćenje dr. V. Hudoklin, Ljubljana), ali ti lokaliteti nisu publicirani.

Među lignikolnim vrstama može se istaknuti *Ganoderma atkinsonii*, nedavno opisana kao nova (Jahn, Kotlaba i Pouzar 1980) i u Jugoslaviji dosta raširena vrsta na drvu jele, no na drvu munike nađena je samo ovom prilikom. Nove su za Jugoslaviju *Athelia epiphylla* Pers. i *Hyphodontia alutaria* (Burt.) John Erikss., iako nisu rijetke, osobito prva. Kod nas su ustanovljene i na drugim, udaljenim lokalitetima.

Dvije prije objavljene vrste nisu bile ispravno određene. Pilát (1937) navodi s Koritnika *Peniophora sulphurina* (P. Karst.) v. Höhn. et Litsch., ali se utvrdilo da se radi o pripadniku roda *Amylocorticium;* vrsta nije još mogla biti točno identificirana. Prljinčević (1972) publicirao je sa Šar-planine *Leptoporus bulgaricus* Pilát, prema primjercima koje je sabrao i odredio Černý. To bi bio zapravo sinonim od *Dichomitus squalens* (P. Karst.) Reid. Međutim, materijal koji smo pregledali sasvim je drugačije građe, no kako je sterilan i slabo razvijen, nije mu se mogao odrediti ni rod.

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