

SEVERAL RARE SPECIES OF HIGHER FUNGI
AND THEIR LOCALITIES IN JUGOSLAVIA

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During the investigations of the flora of higher fungi, we had the opportunity to find, in addition to the more common ones, a number of rare or interesting species not noted previously for our country. It was therefore decided to make periodical reports on such finds. The number of collections for these species is limited, but, as the localities lie mostly rather far apart, it is to be hoped that, at least in some cases, additional ones will be found in between.

In BEO there exists a large collection of fungi by V. Lindtner, for the most part not published. However, as it is not systematically ordered and labelled, with many collections unidentified, we were only able to locate a few specimens of the species under study, which are included here and also in our previous paper. It is very probable that he found at least some of the species mentioned here in either the same or other localities, and these collections will be published as soon as the herbarium is put into order.

Five species, belonging to various families, are presented in this paper. Their localities are shown on the map (Fig. 1).

Hymenochaete mougeotii (Fr.) Cooke. This aerophyte is one of the 100 species selected for the mapping of the macromycetes of Europe. It grows in the form of blood-red crusts mostly on the underside of dead fir branches on standing trees. It can therefore escape notice and is

found more easily on recently fallen branches or dead trunks. The microscopical characters are the hyaline spores, $6-8 \times 2-3.5 \mu$ and, in particular, the numerous setae which protrude far beyond the hymenium. A systematic search would, without doubt, be rewarded with more finds. Five localities are known up to now.

1. Stol in Karavanke (Alps) on the bark of *Picea excelsa*, alt. 1300 m, on the bark of *Abies pectinata*, alt. 1500 m, 6 IX 1937., leg. et det. F. Dolšak. The herbarium of this collector is preserved in LJU. 2. Stojna near Kočevje, on a fallen branch of *Abies*, alt. about 850 m, 27 V 1967., leg. S. Hočevar and M. Tortič, det. M. Tortič, ZA. 3. Medvednica near Zagreb, on a log of *Abies*, alt. about 850-900 m, 28 IX 1966., leg. et det. M. Svrček and M. Tortič, ZA. 4. Paljetinski vrh near Delnice, on fallen *Abies* branches, alt. 800 m, 27 VI 1967., leg. et det. M. Tortič, ZA. 5. Goč: Dobra Voda, on fallen *Abies* branches, alt. 1000-1100 m, 18 VI 1965., 6 IV 1967., leg. et det. M. Jelić, herb. Bot. Depart. Beograd.

The four last localities are all in beech and fir forests.

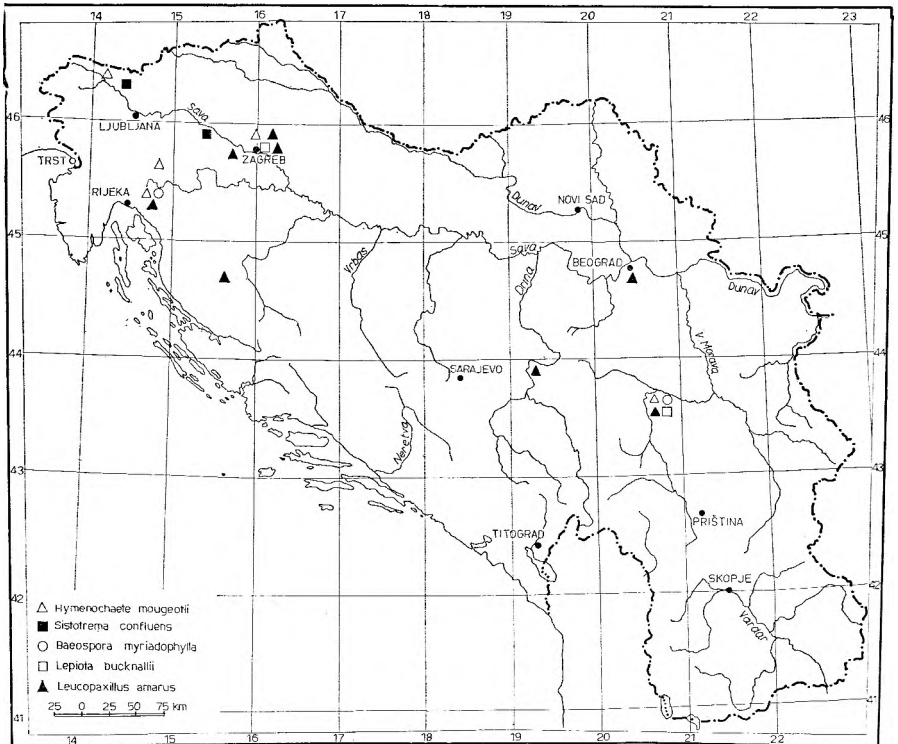


Fig. 1.

Sistotrema confluens Pers. ex Fr. This is another of the mapped fungi. It is considered as rare, but perhaps this is only because it is not known generally and its fruitbodies are not particularly conspicuous, except when growing in large quantities. The fruitbody is whitish to yellowish, shaped like an inverted cone, with the hymenophore in the form of flattened, irregular spines. The stipe is central or excentric, often yellow at the base. Many fruitbodies usually coalesce together. The smell is very characteristic: some compare it to that of the methyl salicylate, others to vanilla, and some call it simply »the smell of a chemist's shop«. Spores are hyaline, $3,5-4,5 \times 2,5-3\mu$.

This species was unknown in Yugoslavia, until the first author observed some unidentified specimens at the fungus exhibition in Ljubljana in October 1968. Their origin could not be ascertained. but, fortunately, a week or two later, together with some other collectors, she had the opportunity to visit a pine wood not far from Ljubljana. where the fungus grew in large quantities, in circles, and from where it was perhaps brought to the exhibition. Afterwards, another locality was found and there are probably more.

1. Predvor near Kranj, pine wood near the village Zgornja Bela, among moss and fallen needles, alt. about 500 m, 26 X 1968., leg. et det. M. Tortić, rev. R. A. Maas Geesteranus, ZA. 2. Krakovski gozd near the village Zameško (on the Zagreb—Ljubljana motorway, between Brežice and Novo Mesto), oak forest (*Quercus robur*) among moss, on fallen leaves and oak cupules, in circles, alt. 160 m, 28 IX 1969., leg. S. and M. Tortić, det. M. Tortić, ZA.

Baeospora myriadophylla (Peck) Sing. A very rare species, which, in Czechoslovakia for instance, has only been found in three localities on rotted coniferous wood (*Abies*, but in one instance probably *Picea*) (K o t l a b a and Pouzar 1962). According to Moser (1967), however, it grows on rotted hardwoods. It has a small, *Collybia*-like fruitbody with a brownish cap, and is easily recognized, especially when young, by the very crowded violet gills. Spores amyloid, $3,5-4,5 \times 2,5\mu$. Two localities are now known in Yugoslavia.

1. Crni Lug near Delnice, beech and fir forest, a few fruitbodies on an *Abies* stump, alt. 700 m, 5 X 1966., leg. et det. M. Svrček and M. Tortić, ZA. 2. Goč: Dobra Voda, beech and fir forest, on a *Fagus* stump, alt. 1000 m, 22 X 1965., leg. M. Jelić, det. M. Jelić and M. Tortić. It was also found there on 11 X 1967. Herb. Bot. Depart. Beograd.

In our country it has therefore been found both on *Abies* and *Fagus*.

Lepiota bucknallii (Berk. et Br.) Sacc. This rare species, according to the literature, is found in wet forests; Pilát (1969) cites it as growing particularly in *Alnus* woods. The fruitbodies are small, in shape similar to other small *Lepiota* species, but unmistakable by their violet cap and stipe and the unpleasant smell, resembling that of *Tricholoma sulphureum*. The violet colour is not always very pronounced on the cap, which is often yellow, but the stipe becomes darker violet on bruising. Spores hyaline, $7,5-8 \times 3\mu$. Two localities are now known in Yugoslavia, far apart and with very different habitats.

1. Maksimir Park in Zagreb, oak and hornbeam wood, several specimens among fallen leaves, alt. 130—140 m, 5 X 1968., leg. et det. M. Tortić, ZA. 2. Goč: Dobra Voda, beech and fir forest, alt. 1000—1100 m, 9 X 1964., leg. et det. M. Jelić, herb. Bot. Depart. Beograd.

Leucopaxillus amarus (A. et S. ex Fr.) Kühn. Its characters are reddish-brown, finely pubescent cap with a striate margin, the whitish, crowded gills, the white stipe and flesh, the bitter taste and the mealy smell. It was placed earlier into various other genera, such as *Clitocybe*, *Tricholoma* etc., but is now recognized as belonging to *Leucopaxillus* because of its amyloid spores, which are finely verrucose, $4-6 \times 3,5-5 \mu$.

The fungus is known from several countries in Europe, but is apparently everywhere rather rare. It was previously published for Yugoslavia by the first author (Tortić 1964, 1966), but as it has now been found in several additional localities, we thought it advisable to present here an up-to-date account of its occurrence in our country.

Except for the above mentioned publications, there is no mention of this fungus for Yugoslavia in the literature. It is true that Voss (1889—92) cites an *Agaricus (Clitocybe) amarus* Fries, Systema I, p. 87. as growing in the forests of Rožnik near Ljubljana. However, according to Kotlaba (1966), Fries described under this name in the Systema quite another species, i. e. with a white cap, which was brown only in the middle. It was only later that Fries used the name *A. amarus* for our species. This name would therefore be invalid for the present species and for which Kotlaba proposed *L. gentianeus* (Quél.) Kotl. Since it is uncertain which species was meant by Voss, we have not taken his locality into account. However, as there are already eight localities in Yugoslavia (three of them close together), it is very probable that more will be found with further investigations.

1. Maksimir Park in Zagreb, alt. 130—140 m. On litter under *Pinus nigra* and *P. strobus*, 26 XI 1961. Several specimens have since been found almost every year under the same *P. nigra* in October and November. On 5 X 1965. it was found, however, in another part of the park, with only broadleaved trees nearby (oaks, hornbeams). Several collections leg. et det. M. Tortić, ZA. 2. Medvednica near Zagreb, in beech and fir forest, on litter under *Abies*, alt. 850—900 m, 29 IX 1963. and 18 X 1964., leg. et det. M. Tortić, ZA. 3. Plješivica near Zagreb, one specimen on litter in beech forest, alt. about 600 m, 16 XI 1969., leg. S. Tortić, det. M. Tortić, ZA. 4. Crni Lug near Delnice, beech and fir forest, alt. about 700 m 4 X 1965., leg. et det. M. Tortić, ZA. The specimens were much paler than usual, and perhaps represent a particular form (several are recognized). 5. Kravsko polje: Laudonov gaj, a group in planted pine forest on sandy soil., alt. 640 m, 8 X 1968., leg. et det. M. Tortić, ZA. 6. Avala near Beograd, in a planted pine wood, alt. 325 m, 5 X 1965., leg. et det. M. Jelić, herb. Bot. Depart. Beograd. 7. Goč: Dobra Voda, beech and fir forest, alt. 1000—1100 m, 9 X 1964. and 12 X 1967., leg. et det. M. Jelić, herb. Bot. Depart. Beograd. 8. Tara: Mitrovac, forest of spruce, fir and beech, alt. 1080, 10—16 X 1963., leg. et det. V. Lindtner, BEO.

Summary

Localities in Jugoslavia are presented for the following rare species of higher fungi: *Sistotrema confluens*, *Baeospora myriadophylla* and *Lepiota bucknallii*, with two localities each, *Hymenochaete mougeotii* with five, and *Leucopaxillus amarus* with eight. It is to be hoped that some of them at least will also be found elsewhere. Except for *L. amarus*, all are published here for the first time for our country.

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SADRŽAJ

NEKOLIKO RIJETKIH VRSTA VIŠIH GLJIVA I NJIHOVI LOKALITETI U JUGOSLAVIJI

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Prikazani su lokaliteti ovih rijetkih vrsta viših gljiva u Jugoslaviji: *Sistotrema confluens*, *Baeospora myriadophylla* i *Lepiota bucknallii*, svaka s dva lokaliteta, *Hymenochaete mougeotii* s pet i *Leucopaxillus amarus* s osam. Vjerojatno će bar neke od njih biti nađene i drugdje. Osim *L. amarus*, sve su ostale ovdje prvi put zabilježene za našu zemlju

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