

MACROMYCETES IN THE “GHEORGHE SĂLĂGEANU” COLLECTION (ORDER RUSSULALES)

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Key words: macromycetes, mycetoepixilophyta, mycetoendoxilophyta, mycetogeophyta saprophytica.

INTRODUCTION

In the year 2005, the Herbarium of the Natural Science Museum from Târgu-Mureș enriched with a new collection, bought from Professor Gheorghe Sălăgeanu. It contains 650 species of macromycetes. These represent almost half of the species ever found in Romania. The macromycetes are represented by fruit-bodies in different forms and colours, preserved by drying. The species were published in “*Determinator pentru recunoașterea ciupercilor comestibile, necomestibile și otrăvitoare din România*”, issued in 1985, at the Ceres Publishing House, which won a Romanian Academy prize as the best contribution in this research field.

The biologist Prof. Dr. Gheorghe Sălăgeanu worked with the „Ovidius” University Constanța.

MATERIAL AND METHODS

This work presents a part of the collection (67 taxons of macromycetes).

The 216 pieces were collected and determined by Sălăgeanu.

The biological forms were taken from “*Determinator pentru recunoașterea ciupercilor comestibile, necomestibile și otrăvitoare din România*” (3).

The classification of the macromycetes and the updating of the nomenclature of some species were made according to ”Catalogue of life-2009 Annual Checklist” (5), Index Fungorum (6) and Myco Bank (7).

For each species the scientific name is marked, as well as the collecting place, the biological form, the edible point of view, the collecting date, the number in the inventory register of the Natural Science Museum from Târgu-Mureș and the number of specimens.

RESULTS AND DISCUSSION

The 216 macromycetes presented in this work belong to 8 families, 15 genera, 66 species and one variety.

These all were found in Romania, in the districts: Bihor, Bistrița-Năsăud, Caraș-Severin, Cluj, Maramureș and Sălaj, collected in 1955-1965 and 1968.

Most of the species belong to the family Russulaceae (45 taxa) (fig. 1).

The analysis of the biological forms emphasizes the domination of the mycetogeophyta mycorrhiza (45 taxa) (fig. 3).

From the edible point of view, the majority concerns uneatable species (40 taxa) (fig. 2).

One of the species presented here, *Hericium erinaceus*, is threatened in Europe.

LOCALITIES

Bihor district: Vadul Crișului.

Bistrița-Năsăud district: Rodnei Mountains: Corongiș Peak, Valea Vinului Valley, Popii Hill.

Caraș-Severin district: Semenicului Mountains, Trei Ape.

Cluj district: Gilăului Mountains: Băișoara; Buscat Top; Cluj-Napoca: Botanical Garden, Craiului Forest, Hoia Forest, Lomb Forest, Craiului Hill; Făgetul Clujului: Baci, Coasta Mare, Galicer Hill, Fântâna lui Bilașcu; Mount Vlădeasa, Răcadului Valley.

Maramureș district: Lăpușului Mountains, Văratec Peak.

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Sălaj district: Năpradea, Jibou; Vădurele village.

CONCLUSIONS

The collection has an important value, first of all, because it emphasizes a part of the patrimony of our museum, secondly, it completes the knowledge concerning the ecology and corology of some macromycetes from Romania and finally, because of the age of some species and the collector's notoriousness.

Checklist of macromycetes species (in alphabetical order of families)

Fam. Albatrellaceae

Albatrellus confluens (Alb. & Schwein.) Kotl. & Pouzar 1957

Maramureş district: on the wet soil, through coniferous forests from Lăpuşului Mountains, under Văratec Peak; Gs; 16 IX 1964; HMş 564 under *Scutigera confluens* (A. et S. ex Fr.) Bond. et Sing.; 4 ex.

Albatrellus cristatus (Schaeff.) Kotl. & Pouzar 1957

Caraş-Severin district: on the wet soil, in the deciduous and coniferous forests from Semenicultului Mountains, at Trei Ape; Gs; 3 IX 1960; HMş 565 under *Scutigera cristatus* (Pers. ex Fr.) Bond. et Sing.; 2 ex.

Albatrellus ovinus (Schaeff.) Kotl. & Pouzar 1957

Cluj district: in big clusters, on the wet soil, in the coniferous forests (spruce fir forests), at Băişoara from Gilăului Mountains; Gs; 30 VIII 1959; HMş 563 under *Scutigera ovinus* (Schff. ex Fr.) Murr.; 2 ex.

Scutigera pes-caprae (Pers.) Bondartsev & Singer 1941

Bistriţa Năsăud district: on the wet soil, through deciduous and coniferous forests, at Vinului Valley from Rodnei Mountains; Gs; 28 IX 1962; HMş 562 under *S. pes-caprae* (Pers. ex Fr.) Bond. et Sing.; 2 ex.

Fam. Auriscalpiaceae

Artomyces pyxidatus (Pers.) Jülich. 1982

Cluj district: on Populus tremula stumps, at Plecica Valley from Făgetul Clujului, near Cluj-Napoca; EPx; 20 IX 1958; HMş 532 under *Clavicornia pyxidata* (Pers. ex Fr.) Doty; 1 ex.

Auriscalpium vulgare (Fr.) Karst.

Cluj district: on Pinus sylvestris fallen and buried cons, at Craiului forest from Cluj-Napoca; EPx-Gs, 6 XI 1958; HMş 537; 4 ex.

Lentinellus castoreus (Fr.) Kühner & Maire 1934

Bistriţa Năsăud district: on the coniferous tree, in the forests from Rodnei Mountains under Corongiş Peak, at Vinului Valley; Ex; 19 X 1963; HMş 669 under *L. castoreus* (Fr.) Kühn. et Mre.; 1 ex.

Lentinellus cochleatus (Pers.) P. Karst. 1879

Cluj district: in connates clusters, on the deciduous tree, at Făget, near Cluj-Napoca; Ex-EPx; 20 IX 1959; HMş 668 under *L. cochleatus* (Pers. ex Fr.) Karst.; 5 ex.

Fam. Bondarzewiaceae

Bondarzewia montana (Quél.) Singer 1940

Bistriţa Năsăud district: on the roots and at the base of coniferous trunks from Rodnei Mountains, under Corongiş Peak, at Vinului Valley; Ex-EPx; 28 IX 1962; HMş 558 under *B. montana* (Quél.) Sing.; 1 ex.

Heterobasidion annosum (Fr.) Bref. 1888

Cluj district: on the roots and at the base of Picea excelsa trunks, in Gilăului Mountains, at Băişoara; Ex-Epx; 19 IX 1958; HMş 582 under *Fomitopsis annosa* (Fr.) Karst.; 5 ex.

Fam. Hericiaceae

Hericium cirrhatum (Pers.) Nikol. 1950

Cluj district: on decaying deciduous tree, at Făget-Cluj; Ex-EPx; 14 IX 1960; HMş 540 under *H. cirrhatum* (Fr.) Nikol.; 1 ex.

Cluj district: on decaying tree, on the Galicer Hill, at Făget-Cluj; Ex-EPx; 3 X 1965; HMş

541 under *H. diversidens* (Fr.) Nikol.; 2 ex.

***Hericium coralloides* (Scop.) Pers. 1794**

Cluj district: on decaying deciduous tree, in the beech and hornbeam forests, at Făgetul Clujului; Ex-EPx; ☉; 29 VIII 1962; HMş 538 under *H. coralloides* (Fr.) Pers.; 4 ex.

***Hericium erinaceus* (Bull.) Pers. 1797**

Cluj district: on the oak trunks, in Hoia Forest from Cluj-Napoca; Ex; 12 X 1958; HMş 539 under *H. erinaceus* (Bull. ex Fr.) Pers.; 1 ex.

Fam. Lachnocladiaceae

***Dichostereum granulatum* (Pers.) Boidin & Lanq. 1977**

Cluj district: on decaying tree, in Botanical Garden from Cluj-Napoca; EPx; without collection date; HMş 533 under *Grandinia granulosa* (Pers.) Boud. et Galz.; 2 ex.

Fam. Peniophoraceae

***Peniophora quercina* (Pers.) Cooke 1879**

Cluj district: on the fallen branches, in Hoia Forest, at Cluj-Napoca; EPx; 12 IX 1958; HMş 494 under *P. corticalis* (Bull.) Bres; 2 ex.

***Peniophora pini* (Schleich.) Boidin 1956**

Cluj district: on dry branches of *Pinus sylvestris*, on Craiului Hill from Cluj-Napoca; EPx; 12 X 1962; HMş 521 under *Stereum pini* (Schleich. ex Fr.) Fr.; 2 ex.

Fam. Russulaceae

***Lactarius aspideus* (Fr.) Fr. 1838**

Cluj district: on the soil of deciduous forests, at Făget, near Cluj-Napoca; Gm; 24 VIII 1959; HMş 998 under *L. aspideus* (Fr. ex Fr.) Fr.; 1 ex.

***Lactarius aurantiacus* (Pers.) Gray 1821**

Bistrița Năsăud district: on the soil of coniferous forests, under *Picea* sp., in Rodnei Mountains, at Vinului Valley; Gm; 28 IX 1962; HMş 1015 under *L. mitissimus* (Fr.) Fr.; 5 ex.

***Lactarius blennius* (Fr.) Fr. 1838**

Cluj district: through beech forests, at Făgetul Clujului; Gm; 21 VIII 1960; HMş 1008; 2 ex.

***Lactarius camphoratus* (Bull.) Fr. 1838**

Bistrița Năsăud district: on the soil of beech forests from Rodnei Mountains, at Vinului Valley; Gm; 29 VIII 1964; HMş 1018 under *L. camphoratus* (Bull. ex Fr.) Fr.; 3 ex.

***Lactarius chrysorrhoeus* Fr. 1838**

Cluj district: on the soil of beech forests, especially in the oak forests, on Galicer Hill, at Cluj-Napoca; Gm; +; 17 IX 1958; HMş 1005; 1 ex.

***Lactarius controversus* (Pers.) Pers. 1796**

Cluj district: on the coniferous soil and only under *Populus tremula* and *Betula verrucosa*, at Făget-Cluj; Gm; 19 X 1958; HMş 1004 under *L. controversus* (Pers. ex Fr.) Fr.; 1 ex.

***Lactarius deliciosus* (L.) Gray 1821**

Cluj district: through coniferous forests, especially in the fir and spruce fir forests, in Gilăului Mountains, at Băișoara; Gm; ☉; 6 VIII 1961; HMş 996 under *L. deliciosus* (Fr. ex Fr.) S.F.Gray; 3 ex.

***Lactarius fuliginosus* (Fr.) Fr. 1838**

Cluj district: on the soil of deciduous forests, especially under *Corylus avellana*, at Hoia from Cluj-Napoca; Gm; 25 VIII 1960; HMş 1003 under *L. fuliginosus* (Fr. ex Fr.) Fr.; 3 ex.

***Lactarius glycyosmus* (Fr.) Fr. 1838**

Cluj district: on sandy soils, under *Betula verrucosa*, sometimes under *Alnus* sp. and *Salix* sp., at Făget, near Cluj-Napoca; Gm; ☉; 26 IX 1965; HMş 1013; 1 ex.

***Lactarius helvus* (Fr.) Fr. 1838**

Cluj district: on the soil of *Picea excelsa* forests from Gilăului Mountains, at Băișoara, under Buscat Peak; Gm; +; 30 VIII 1961; HMş 1011; 2 ex.

***Lactarius lacunarum* Romagn. ex Hora 1960**

Cluj district: on the very wet lands, in the traces of carriages and animals, at Plecica Valley, nearby Cluj-Napoca; Gm; 21 VIII 1960; HMş 1016; 2 ex.

Lactarius lilacinus (Lasch) Fr. 1838

Cluj district: on wet and swampy ground, under the alders, among moss, at Făget, under Coasta Mare, Cluj- Napoca; Gm; ☉; 18 IX 1960; HMş 1012; 3 ex.

Lactarius pallidus Pers. 1797

Cluj district: on limy soil, at Făget, under Coasta Mare, nearby Fântâna lui Bilaşcu from Cluj-Napoca; Gm; 26 IX 1965; HMş 1007 under *L. pallidus* (Pers. ex Fr.) Fr.; 1 ex.

Lactarius picinus Fr. 1838

Bistriţa Năsăud district: on the soil of coniferous forests from Rodnei Mountains, at Vinului Valley, under Corongiş Peak; Gm; 25 VIII 1964; HMş 1002; 1 ex.

Lactarius piperatus (L.) Pers. 1797

Sălaj district: on the coniferous soil, especially in the oak forests, at Năpradea, near Jibou; Gm; ☉; 15 VII 1956; HMş 995 under *L. piperatus* (L. ex Fr.) S.F.Gray; 5 ex.

Lactarius pyrogalus (Bull.) Fr. 1838

Cluj district: through deciduous forests, only under the hazel tree, in Hoia Forest, at Cluj-Napoca; Gm; 5 VIII 1960; HMş 1010 under *L. pyrogalus* (Bull. ex Fr.) Fr.; 4 ex.

Lactarius quietus (Fr.) Fr. 1838

Cluj district: through deciduous forests, especially in the oak forests, at Hoia - Cluj-Napoca; Gm; 7 VIII 1960; HMş 1020 under *L. quietus* Fr.; 2 ex.

Lactarius rufus (Scop.) Fr. 1838

Bistriţa Năsăud district: on the acid soil, in the coniferous forests, under *Picea excelsa*, in Rodnei Mountains, at Vinului Valley; Gm; 21 IX 1960; HMş 1017; 2 ex.

Lactarius scrobiculatus (Scop.) Fr. 1838

Cluj district: on the soil of the coniferous forests from Gilăului Mountains, at Băișoara, under Buscat Peak; Gm; +; 5 VIII 1962; HMş 1000 under *L. scrobiculatus* (Scop. ex Fr.) Fr.; 2 ex.

Lactarius serifluus (DC.) Fr. 1838

Cluj district: on the soil of the deciduous forests, in the oak and hornbeam forests, at Baci, nearby Cluj-Napoca; Gm; 27 IX 1960; HMş 1019 under *L. serifluus* (DC. ex Fr.) Fr.; 2 ex.

Lactarius subdulcis (Pers.) Gray 1821

Cluj district: on the clayey soil, through deciduous forests, at Făget, nearby Cluj-Napoca; Gm; ☉; 21 VIII 1960; HMş 1021 under *L. subdulcis* (Bull. ex Fr.) Gray; 2 ex.

Lactarius torminosus (Schaeff.) Gray 1821

Cluj district: on the soil of the deciduous forests, only in the presence of *Betula* sp., at Făget, nearby Cluj-Napoca; Gm; +; 21 VIII 1960; HMş 1001 under *L. torminosus* (Schff. ex Fr.) S.F.Gray; 2 ex.

Lactarius turpis (Weinm.) Fr. 1838

Bistriţa Năsăud district: on the soil of the deciduous and coniferous forests, under *Betula* sp., in Rodnei Mountains, at Vinului Valley; Gm; 19 IX 1963; HMş 999; 4 ex.

Lactarius uvidus (Fr.) Fr. 1838

Cluj district: through deciduous forests, in the wet and muddy lands, especially under *Betula* sp., at Făget, nearby Cluj-Napoca; Gm; 24 VIII 1959; HMş 997 under *L. uvidus* (Fr. ex Fr.) Fr.; 2 ex.

Lactarius vellereus (Fr.) Fr. 1838

Cluj district: through deciduous forests, especially in the oak forests, at Hoia Forest, Cluj-Napoca; Gm; 8 X 1960; HMş 994; 4 ex.

Lactaris vietus (Fr.) Fr. 1838

Cluj district: on the very wet soils, under *Betula verrucosa*, at Făgetul Clujului; Gm; 24 VIII 1960; HMş 1009; 1 ex.

Lactarius volemus (Fr.) Fr. 1838

Cluj district: on the soil of the deciduous forests, at Făget, nearby Cluj-Napoca; Gm; ☉; 2 VIII 1962; HMş 1014; 3 ex.

Lactarius zonarius (Bull.) Fr. 1838

Cluj district: on the limestone soils, in the deciduous forests, at Făget, under Coasta Mare, Cluj-Napoca; Gm; 4 IX 1968; HMş 1006 under *L. zonarius* Bull. ex Fr.; 2 ex.

***Russula adusta* (Pers.) Fr. 1838**

Bistrița-Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley, on Popii Peak; Gm; 28 IX 1962; HMș 1024 under *R. adusta* (Pers. ex Fr.) Fr.; 2 ex.

***Russula alutacea* (Fr.) Fr. 1838**

Cluj district: on the soil of the deciduous forests, at Făgetul Clujului, under Coasta Mare; Gm; 13 VIII 1958; HMș 1037 under *R. alutacea* (Pers. ex Fr.) em. Melz. et Zv.; 2 ex.

***Russula atropurpurea* (Krombh.) Britzelm. 1893**

Sălaj district: on the soil of the deciduous forests, under *Quercus petraea*, at Vădurele village, nearby Jibou; Gm; 18 IX 1965; HMș 1027 under *R. atropurpurea* (Krbh.) Britz.; 2 ex.

***Russula aurea* Pers. 1796**

Bistrița Năsăud district: on the soil of the deciduous and coniferous forests, at Vinului Valley, in Rodnei Mountains; Gm; 29 VIII 1964; HMș 1038 under *R. aurata* (With.ex Fr.) Fr.; 1 ex.

***Russula cyanoxantha* (Schaeff.) Fr. 1963**

Bistrița Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley, under Corongiș Peak; Gm; 2 IX 1956; HMș 1033 under *R. cyanoxantha* (Schff. ex Schw.) Fr.; 1 ex.

***Russula delica* Fr. 1838**

Bistrița Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley; Gm; 29 VIII 1964; HMș 1022; 5 ex.

***Russula foetens* (Pers.) Pers. 1796**

Bistrița Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley; Gm; 15 IX 1965; HMș 1025 under *R. foetens* (Pers. ex Fr.) Fr.; 2 ex.

***Russula fragilis* var. *fragilis* Fr. 1838**

Cluj district: on the soil of the deciduous forests, under *Fagus sylvatica*, nearby Cluj-Napoca; Gm; 20 X 1963; HMș 1028 under *R. fragillis* Fr.; 2 ex.

***Russula heterophylla* (Fr.) Fr. 1838**

Cluj district: on the soil of the deciduous forests, at Făget, nearby Cluj-Napoca; Gm; 17 VIII 1959; HMș 1034 under *R. heterophylla* Fr.; 2 ex.

***Russula lutea* (Huds.) Gray 1821**

Cluj district: on the deciduous, coniferous and oak forests, at Cluj- Napoca, on Galicer Hill and on Făget Hill; Gm; 12 VI 1959; HMș 1035 under *R. lutea* Huds. ex Fr.; 2 ex.

***Russula nigricans* (Bull.) Fr. 1838**

Cluj district: on the soil of the deciduous and coniferous forests from Mount Vlădeasa, at Răcadului Valley; Gm; 21 X 1962; HMș 1023 under *R. nigricans* (Bull. ex) Fr.; 2 ex.

***Russula pectinata* (Bull.) Fr. 1838**

Cluj district: on the soil of the deciduous forests, under *Quercus* sp., in Hoia Forest, at Cluj-Napoca; Gm; 5 VIII 1957; HMș 1026 under *R. pectinata* (Bull.ex Fr.) Cke.; 2 ex.

***Russula queléti* Fr. 1872**

Cluj district: through coniferous forests, at Băișoara, in Gilăului Mountains; Gm; +; 29 X 1956; HMș 1030; 2 ex.

***Russula risigallina* (Batsch) Sacc. 1915**

Cluj district: on the soil of the deciduous forests, at Făgetul Clujului; Gm; 2 VII 1962; HMș 1036 under *R. chamaeleontina* Fr.; 4 ex.

***Russula rosea* Pers. 1796**

Cluj district: on the soil of the deciduous forests, in Lomb Forest, nearby Cluj-Napoca; Gm; 29 VIII 1958; HMș 1031 under *R. lepida* Fr.; 2 ex.

***Russula silvestris* (Singer) Reumaux 1996**

Cluj district: through deciduous forests, at Făgetul Clujului; Gm; ++; 30 VIII 1958; HMș 1029 under *R. emetica* var. *silvestris* Kühn. et Romagn.; 1 ex.

***Russula virescens* (Schaeff.) Fr. 1836**

Bistrița Năsăud district: on the soil of the coniferous and deciduous forests, at Vinului

Valley from Rodnei Mountains; Gm; ☉☉☉☉; 29 VIII 1964; HMş 1032 under *R. virescens* (Schff. ex Zant.) Fr.; 1 ex.

Fam. Stereaceae

***Aleurodiscus amorphus* Rabenh. 1888**

Cluj district: on the decaying spruce fir tree, in the coniferous forests, on Mount Vlădeasa; EPx; 28 IX 1960; HMş 492 under *A. amorphus* (Pers.) Rabh.; 50 ex.

***Stereum hirsutum* (Willd.) Pers. 1800**

Cluj district: on branches and stumps, in Hoia Forest - Cluj-Napoca; Ex-EPx; 11 IX 1955; HMş 523 under *S. hirsutum* (Willd.ex Fr.) S.F.Gray; 10 ex.

***Stereum insignitum* Qué. 1889**

Bihar district: on decaying tree, in deciduous forests, at Vadul Crişului; EPx; 29 VIII 1961; HMş 524; 4 ex.

***Stereum rugosum* Pers. 1794**

Bistriţa Năsăud district: on branches and coniferous trunks, at Vinului Valley from Rodnei Mountains; Ex; 31 X 1964; HMş 518 under *S. rugosum* (Pers.) Fr.; 4 ex.

***Stereum sanguinolentum* (Alb. & Schwein.) Fr. 1838**

Bistriţa Năsăud district: on decaying tree, stumps and dry trunks of coniferous tree, especially spruce tree, in Rodnei Mountains, at Vinului Valley; Ex-EPx; 31 X 1964; HMş 517 under *S. sanguinolentum* (A. et S.) Fr.; 3 ex.

***Xylobolus frustulatus* (Pers.) Boidin 1958**

Cluj district: on decaying coniferous tree, at Cluj-Napoca, at Plecica Valley; Ex-Epx; 5 XI 1957; HMş 519 under *Stereum frustulosum* Fr.; 4 ex.

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Abbreviations

Ex. – number of specimens

HMş – the Herbarium of the Natural Science Museum from Târgu-Mureş

EPx – mycetoepixilophyta

Ex – mycetoendoxilophyta

Gm - mycetogeophyta mycorrhiza

Gs - mycetogeophyta saprophytica

Marks

☉ = mushroom edible at a minimum value

☉☉ = mushroom edible at a high food value

☉☉☉ = mushroom edible at a very high food value

+ = mushroom toxic (causes gastric and intestinal poisoning)

++ = mushroom very toxic (causes intoxication of the nervous system)

Without mark = uneatable mushroom

Fig. 1. The distribution into families of macromycetes

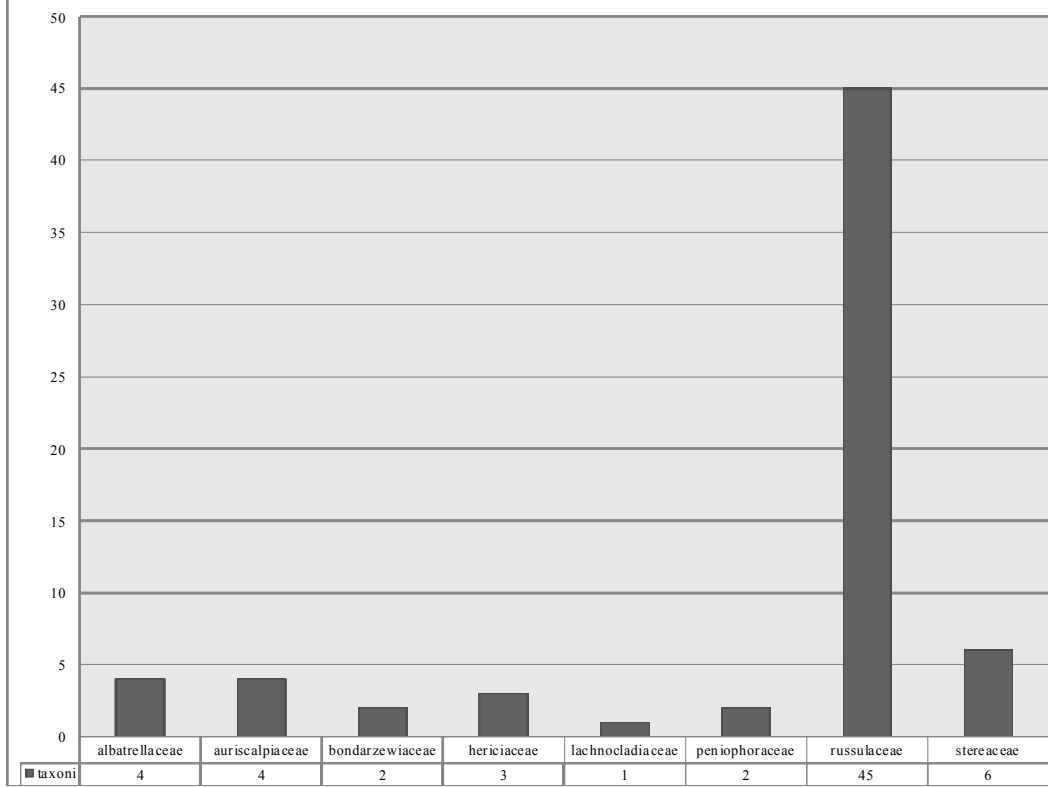


Fig. 2. The distribution of the macromycetes from the edible point of view.

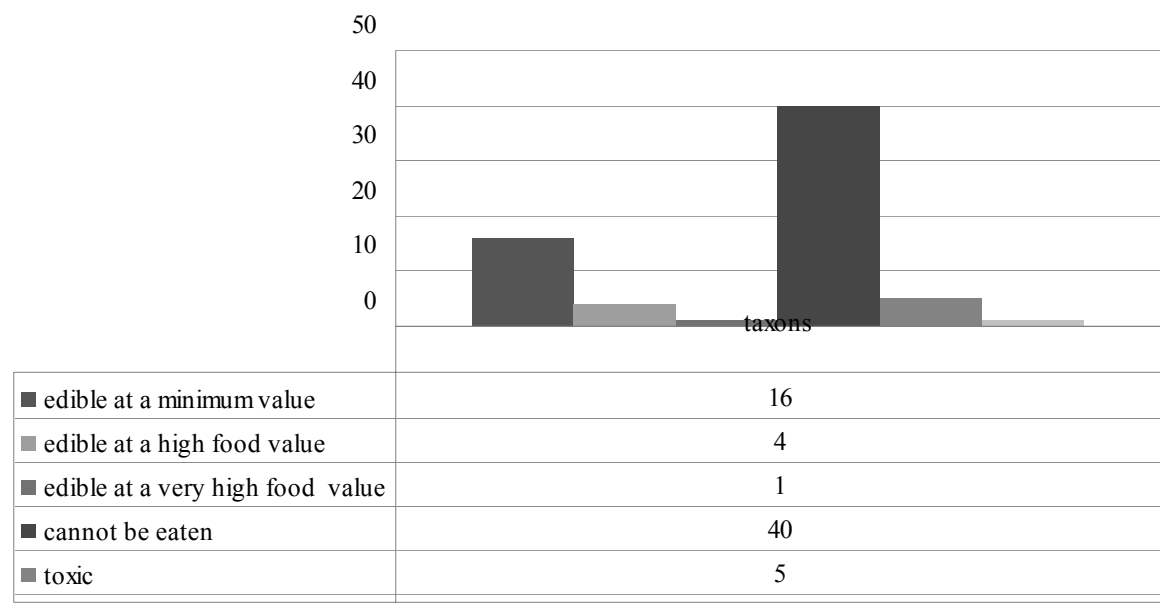


Fig. 3. The spectrum of the bioforms of macromycetes.

