

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

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Key words: mycetoendomycophyta, mycetepixilophyta, mycetogeophyta mycorrhiza, mycetogeophyta saprophytica.

Introduction

In 2005, the Herbarium of the Natural Science Museum from Târgu-Mureş enriched with a new collection, bought from Professor Gheorghe Sălăgeanu, who worked with the "Ovidius" University Constanţa.

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 recunoaşterea ciupercilor comestibile, necomestibile şi otrăvitoare din România*", which issued in 1985, at the Ceres Publishing House, which won a Romanian Academy prize as the best contribution in this research field.

This work completes the knowledge concerning the ecology and corology of some macromycetes from Romania.

Materials and methods

This work presents a part of the collection (49 taxons of macromycetes). The 154 pieces were collected and assigned by Sălăgeanu. The biological forms were taken from Sălăgeanu et Sălăgeanu (1985). The classification of the macromycetes and the updating of the nomenclature of some species were made according to "Catalogue of life-2009 Annual Checklist", Index Fungorum and Myco Bank (see references).

For each species the scientific name was indicated, as well as the collecting location, the biological form, the edible point of view, the collecting date, the number in the inventory register of the Natural Science Museum from Târgu-Mureş and the number of specimens.

Results and discussions

The 154 macromycetes presented in this work belong to 9 families, 19 genera and 49 species. All were found in Romania, in the districts: Alba, Bistriţa-Năsăud, Caraş-Severin, Cluj, Maramureş, Prahova, Satu-Mare and Sălaj, collected between 1955-1965, 1969 and 1999. Most of the species belong to the family Boletaceae (29 species) (fig.1).

The analysis of the biological forms emphasizes the domination of the mycetogeophyta mycorrhiza (45 species) (fig.3). The majority of the species are edible (38 species), three of them are toxic and eight of them cannot be eaten (fig.2).

Two of the species presented here, *Pisolithus arhizus* and *Strobilomyces strobilaceus* are threatened on European level.

List of collecting sites

Alba district - Trascăului Mountains: Vidolm, Colţul Roşu.

Bistriţa-Năsăud district - Rodnei Mountains: Vinului Valley, Corongiş Peak, Ineuş Peak.

Caraş-Severin district – Reşiţa; Semenicului Mountains, Trei Ape.

Cluj district - Baciului Forest; Hoia Forest; Făgetul Clujului; Dumbrăvii Hill; Galicer Hill; Mount Vlădeasa: Britei Peak; Gilăului Mountains: Băişoara, Buscat Peak; Plecica Valley.

Maramureş district - Lăpuşului Mountains, Râoaia Valley.

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Prahova district - Bucegi Mountains, Cumpătul-Sinaia.

Satu-Mare district - Săuca village.

Sălaj district - Vădurele village.

Species list

Fam. Boletaceae

Aureoboletus gentilis (Quél.) Pouzar (1957)

Sălaj district: on the soil of the deciduous forests, in the oak forests of Vădurele village, nearby Jibou; Gm; 10; 19 IX 1965; HMș 987 under *Boletus cramesinus* Secr.; 2 ex.

Boletus aereus Bull. (1789)

Sălaj district: on the soil of the beech forests, especially in the oak forests, in warm and sunny places, at Vădurele, nearby Jibou; Gm; 10 10 10; 18 IX 1965; HMș 982 under *B. aereus* Bull. ex Fr.; 3 ex.

Boletus appendiculatus Schaeff. (1763)

Cluj district: on sandy soils, in the oak and hornbeam forests, at Baciului forest, nearby Cluj-Napoca; Gm; 10 10 10; 27 VIII 1959; HMș 980 under *B. appendiculatus* Schff. ex Fr.; 2 ex.

Boletus badius (Fr.) Fr. (1832)

Bistrița-Năsăud district: in the coniferous and deciduous forests from Rodnei Mountains, at Vinului Valley; Gm; 10 10; 29 VIII 1964; HMș 988 under *B. badius* Fr.; 5 ex.

Boletus calopus Pers. (1801)

Cluj district: on the soil of Fagus and Picea forests from Gilăului Mountains, at Băișoara; Gm; 5 VIII 1962; HMș 978 under *B. calopus* Fr.; 3 ex.

Boletus chrysenteron Bull. (1791)

Bistrița-Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley, on the Izvorul Roșu Valley; Gm; 10; 19 IX 1963; HMș 992 under *B. chrysenteron* Bull. ex St. Amans; 1 ex.

Boletus edulis Bull. (1782)

Cluj district: on the soil of the coniferous forests from Gilăului Mountains, at Băișoara, under Buscat Peak; Gm; 10 10 10; 5 VIII 1961; HMș 983 under *B. edulis* Bull. ex Fr.; 3 ex.

Boletus erythropus Krombh. (1846)

Cluj district: on the soil of the deciduous and coniferous forests from Gilăului Mountains, at Băișoara; Gm; 10 10; 1 VII 1962; HMș 977 under *B. erythropus* Fr.; 2 ex.

Boletus luridus Schaeff. (1774)

Bistrița-Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley; Gm; 10; 29 VIII 1964; HMș 973 under *B. luridus* Schff. ex Fr.; 4 ex.

Boletus pinophilus Pilát & Dermek (1973)

Caraș-Severin district: in the pine forests, on sunny slopes, at Reșița; Gm; 10 10 10; 25 VII 1960; HMș 981 under *B. pinicola* Vitt.; 1 ex.

Boletus pulverulentus Opat. (1836)

Cluj district: in clearings and at the edges of the forests, at Făget, nearby Cluj-Napoca; Gm; 10 10; 1 VIII 1962; HMș 990; 3 ex.

Boletus purpureus Fr. (1835)

Satu Mare district: on the soil of the deciduous and oak forests, at the limit of Săuca village; Gm; 10; 8 VIII 1960; HMș 975; 2 ex.

Boletus queletii Schulzer (1885)

Cluj district: at the edges of the forests, in the meadows, on Galicer Hill, nearby Cluj-Napoca; Gm; 10; 21 VII 1959; HMș 976 under *B. quéletii* Schulz.; 4 ex.

Boletus regius Krombh. (1832)

Cluj district: on the soil of the deciduous forests, on Dumbrăvii Hill and on Galicer Hill, nearby Cluj-Napoca; Gm; 10 10 10; 28 VIII 1964; HMș 979; 1 ex.

Boletus reticulatus Schaeff. (1774)

Satu Mare district: on the soil of the deciduous forests, under Quercus sp., at Săuca village; Gm; 10 10 10; 11 V 1955; HMș 984 under *B. reticulatus* Schff. ex Boud.; 1 ex.

***Boletus rimosus* Vent.**

Cluj district: on the soil of the deciduous forests, especially under *Populus tremula*, at Făgetul Clujului; Gm; 23 VII 1956; HMŞ 967; 1 ex.

***Boletus rubellus* Krombh. (1836)**

Cluj district: on the soil of the deciduous forests, at Făgetul Clujului; Gm; 10; 5 IX 1958; HMŞ 991 under *B. rubellus* Krbh.; 3 ex.

***Boletus satanas* Lenz (1831)**

Alba district: on the limestone soils from as. Laricetum deciduae, at Vidolm, under Colțul Roșu, from Trascăului Mountains; Gm; +; 3 IX 1964; HMŞ 974; 2 ex.

***Boletus subtomentosus* L. (1753)**

Bistrița-Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley, under Ineuț Peak; Gm; 10; 1 XI 1964; HMŞ 993 under *B. subtomentosus* L. ex Fr.; 6 ex.

***Chalciporus piperatus* (Bull.) Bataille (1908)**

Cluj district: on the soil of the coniferous forests, under Britei Peak from Mount Vlădeasa; Gm; 10; 4 VII 1959; HMŞ 985 under *Boletus piperatus* Bull. ex Fr.; 6 ex.

***Leccinellum crocipodium* (Letell.) Bresinsky & Manfr. Binder (2003)**

Cluj district: on the soil of the deciduous forests, at Hoia Forest, nearby Cluj-Napoca; Gm; 10; HMŞ 966 under *Boletus crocipodium* (Let.) Kühn.; 30 VII 1958; 4 ex.

***Leccinellum griseum* (Quél.) Bresinsky & Manfr. Binder. (2003)**

Cluj district: on the soil of deciduous forests, only under *Carpinus betulus*, at Făget, nearby Cluj-Napoca; Gm; 10; 19 VII 1964; HMŞ 970 under *Boletus griseus* Quél.; 1 ex.

***Leccinum aurantiacum* (Bull.) Gray (1821)**

Bistrița-Năsăud district: on the soil of deciduous and coniferous forests, under *Populus tremula*, in Rodnei Mountains, at Vinului Valley; Gm; 1010; 29 VIII 1964; HMŞ 968 under *Boletus aurantiacus* Bull. ex Fr.; 2 ex.

***Leccinum duriusculum* (Schulzer ex Kalchbr.) Singer (1947)**

Cluj district: on the soil of deciduous forests, under *Populus tremula*, at Plecica Valley, nearby Cluj-Napoca; Gm; 1010; 23 VII 1956; HMŞ 969 under *Boletus duriusculus* Schultz. in Kalchbr.; 2 ex.

***Leccinum scabrum* (Bull.) Gray (1821)**

Cluj district: on the soil of deciduous forests, only under *Betula* sp., at Făget, nearby Cluj-Napoca; Gm; 10; 20 IX 1962; HMŞ 971 under *Boletus scaber* Bull. ex Fr.; 4 ex.

***Phylloporus rhodoxanthus* (Schwein.) Bres. (1900)**

Cluj district: on the clayey soil, on steep slopes, at Făget, nearby Cluj-Napoca; Gm; 10; 18 IX 1960; HMŞ 953 under *P. rhodoxanthus* (Schw.) Bres.; 1 ex.

***Pseudoboletus parasiticus* (Bull.) Šutara (1991)**

Maramureș district: on the fruit-bodies of *Scleroderma aurantium*, on sunny slopes, in mountain meadows, in Lăpușului Mountains; Em; 10; 6 VIII 1964; HMŞ 989 under *Boletus parasiticus* Bull. ex Fr.; 1 ex.

***Strobilomyces strobilaceus* (Sop.) Berk. (1851)**

Bistrița-Năsăud district: on the limestone soils, in the deciduous and coniferous forests, especially under *Fagus* sp., in Rodnei Mountains, under Corongiș Peak;; Gm; 29 VIII 1964; HMŞ 957 under *S. floccopus* (Vahl. ex Fr.) Karst.; 1 ex.

***Tylopilus porphyrosporus* (Fr. & Hök) A.H.Sm. & Thiers (1971)**

Bistrița-Năsăud district: on the soil of the coniferous forests from Rodnei Mountains, at Vinului Valley; Gm; 29 VIII 1964; HMŞ 972 under *Boletus porphyrosporus* Fr.; 2 ex.

Fam. *Diplocystidiaceae*

***Astraeus hygrometricus* (Pers.) Morgan (1889)**

Bistrița-Năsăud district: in stony or clayey places, in the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley; Gm; 14 X 1999, HMŞ 1068 under *A. hygrometricus* (Pers.) Morg.; 3 ex.

Fam. Gomphidiaceae

***Gomphidius glutinosus* (Schaeff.) Fr. (1838)**

Caraș-Severin district: on the soil of the coniferous forests, especially in the pine forests from Semenicului Mountains, at Trei Ape; Gm; 10; 3 IX 1960; HMŞ 956 under *G. glutinosus* (Schff. ex Fr.) Fr.; 6 ex.

***Gomphidius maculatus* (Scop.) Fr. (1838)**

Alba district: on the soil of the coniferous forests, only under Larix, in Apuseni Mountains, at Vidolv; Gm; 10; 3 IX 1964; HMŞ 955; 6 ex.

***Gomphidius viscidus* (L.) Fr. (1838)**

Caraș-Severin district: on the soil of the coniferous forests, especially under Pinus sp., in Semenicului Mountains, at Trei Ape; Gm; 10; 3 IX 1960; HMŞ 954 under *G. viscidus* (L. ex Fr.) Fr.; 6 ex.

Fam. Gyroporaceae

***Gyroporus castaneus* (Bull.) Quél. (1886)**

Cluj district: on the soil of the deciduous forests, in small clusters, at Făget, nearby Cluj-Napoca; Gm; 10; 27 VII 1960; HM 965 under *Boletus castaneus* Bull. ex Fr.; 4 ex.

***Gyroporus cyanescens* (Bull.) Quél. (1886)**

Bistrița-Năsăud district: on the soil of the deciduous and coniferous forests from Rodnei Mountains, at Vinului Valley, on Popii Hill; Gm; 10; 29 VIII 1964; HMŞ 964 under *Boletus cyanescens* Bull. ex Fr.; 2 ex.

Fam. Paxillaceae

***Gyrodon lividus* (Bull.) Fr. (1838)**

Cluj district: on the soil of the coniferous forests, only under Alnus, in the wet and muddy lands, among moss, at Făget; Gm; 10; 19 VIII 1964; HMŞ 963 under *Boletus lividus* Bull. ex Fr.; 4 ex.

***Melanogaster variegatus* (Vittad.) Tul. & C. Tul. (1851)**

Cluj district: on the deciduous forests, with underground fruit-bodies, at Făget, nearby Cluj-Napoca; Gs; 10; 8 VII 1962; HMŞ 1064 under *M. variegatus* (Vitt.) Tul.; 2 ex.

***Paxillus involutus* (Batsch.) Fr. (1838)**

Bistrița-Năsăud district: on the soil of the coniferous and deciduous forests from Rodnei Mountains, at Vinului Valley; Gm; without date; HMŞ 952 under *P. involutus* (Batsch. ex Fr.) Fr.; 4 ex.

Fam. Scerodermataceae

***Pisolithus arhizus* (Scop.) Rauschert (1959)**

Maramureș district: in sandy and stony places from Lăpușului Mountains, at Râoaia Valley; Gm; 10; 15 IX 1965; HMŞ 1065 under *P. arenarius* Alb. et Schw.; 1 ex.

***Scleroderma aurantium* (L.) Pers. (1801)**

Bistrița-Năsăud district: on clayey soils, especially on sunny slopes, in Rodnei Mountains, at Vinului Valley; Gm; +; 26 VIII 1962; HMŞ 1066 under *S. aurantium* (L.) ex Pers.; 10 ex.

***Scleroderma verrucosum* (Bull.) Pers. (1801)**

Cluj district: in the deciduous forests-Quercus sp. forests, at Hoia, at Cluj-Napoca; Gm; +; 5 VIII 1957; HMŞ 1067 under *S. verrucosum* Pers.; 5 ex.

Fam. Serpulaceae

***Serpula lacrymans* (Wulfen) J. Schröt. (1885)**

Cluj district: on the floor and on the parquetry fillets from wet apartments, in Cluj-Napoca; EPx; 12 XII 1957; HMŞ 556 under *S. lacrymans* (Wulf. ex Fr.) Bond.; 1 ex.

Fam. Suillaceae

***Suillus cavipes* (Opat.) A.H.Sm. & Thiers (1964)**

Alba district: in the larch forest, at Vidolv, under Colțul Roșu from Trascăului Mountains; Gm; 10; 3 IX 1964; HMŞ 958 under *Boletus cavipes* Opat.; 2 ex.

Suillus granulatus (L.) Roussel (1806)

Prahova district: on the soil of the coniferous forests, especially in the pine forests, at Cumpătul-Sinaia from Bucegi Mountains; Gm; 1010101; 12 VII 1969; HMŞ 986 under *Boletus granulatus* L. ex Fr.; 4 ex.

Suillus grevillei (Klotzsch) Singer (1945)

Alba district: on the soil of the coniferous forests, only under Larix, in the larch forest, at Vidolm, under Colțul Roșu from Trascăului Mountains; Gm; 101; 3 IX 1964; HMŞ 961 under *Boletus grevillei* Klotzsch; 6 ex.

Suillus luteus (L.) Roussel (1806)

Caraș-Severin district: on the soil of the coniferous forests, in the pine forests, under Pinus nigra, in Semenicului Mountains, at Trei Ape; Gm; 1010101; 4 IX 1960; HMŞ 959 under *Boletus luteus* L. ex Fr.; 2 ex.

Suillus tridentinus (Bres.) Singer (1945)

Alba district: on the soil of the coniferous forests, only under Larix, in the larch forest from Trascăului Mountains, at Vidolm; Gm; 101; 3 IX 1964; HMŞ 962 under *Boletus tridentinus* Bres.; 4 ex.

Suillus viscidus (L.) Roussel (1806)

Alba district: in the larch forest, at Vidolm, under Colțul Roșu, in Apuseni Mountains; Gm; 101; 3 IX 1964; HMŞ 960 under *Boletus aeruginascens* Secri.; 4 ex.

Fam. Tapinellaceae

Tapinella atrotomentosa (Batsch) Šutara (1992)

Caraș-Severin district: on the decaying spruce fir tree, in the coniferous forests from Semenicului Mountains, at Trei Ape; EPx; 3 IX 1960; HMŞ 951 under *Paxillus atrotomentosus* (Batsch) Fr.; 5 ex.

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 antiquity of some species and the collector's notoriousness.

Abbreviations

Ex. – number of specimens

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

Em - mycetoendomycophyta

EPx – mycetopixelophyta

Gm - mycetogeophyta mycorrhiza

Gs - mycetogeophyta saprophytica

Marks

101 = species edible at a minimum value

101101 = species edible at a high food value

101101101 = species edible at a very high food value

+ = species toxic

Without mark = species cannot be eaten

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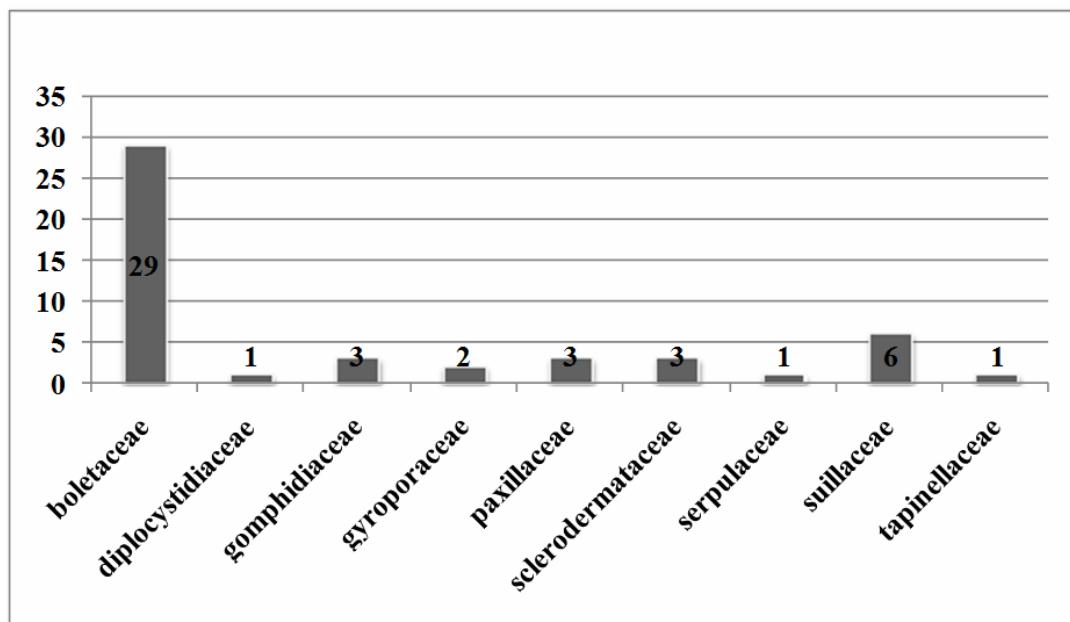


Fig. 1. The distribution into families of macromycetes.

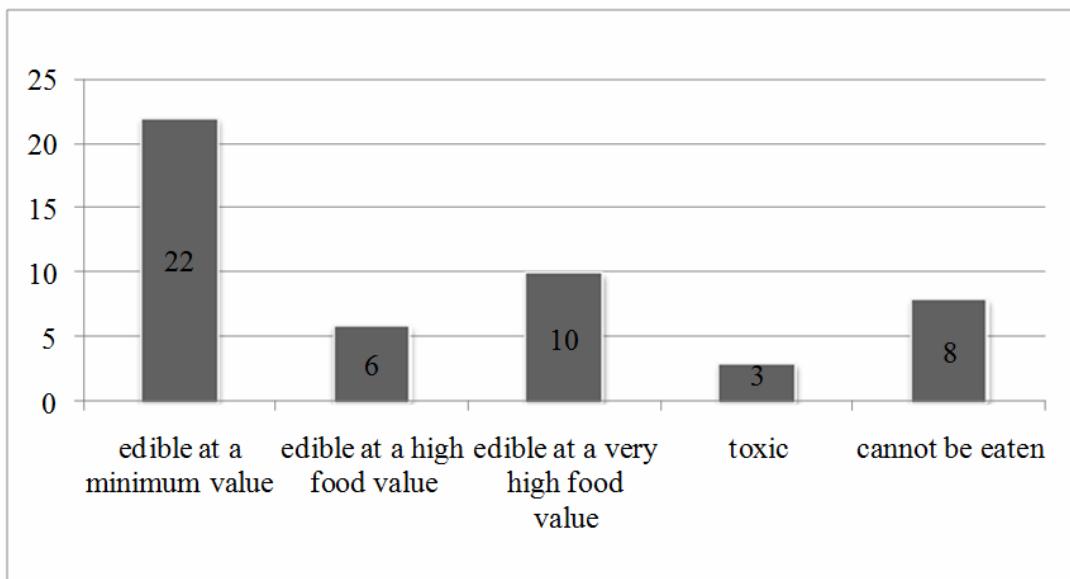


Fig. 2. The distribution of macromycetes from the edible point of view.

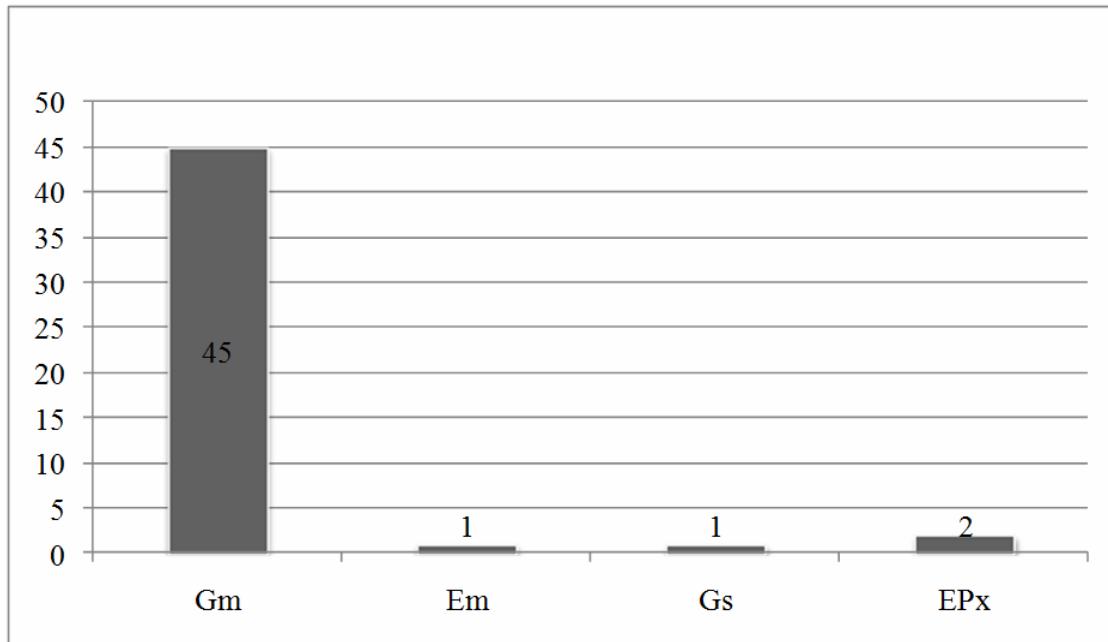


Fig. 3. The spectrum of the bioform of macromycetes.