

Macrobasidiomycetes new to the Tatra National Park (Poland)

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Wojewoda W., Heinrich Z., Komorowska H.: (Mycology Laboratory, Botanical Institute, Polish Academy of Sciences, Lubicz 46, 31 - 512 Kraków, Poland). *Macrobasidiomycetes new to the Tatra National Park (Poland)*. Acta Mycol. 21 (1): 27 - 42, 1985.

The list of localities of 55 macroscopic *Basidiomycetes* new to the Tatra National Park is given; 9 of these are new to Poland (e.g. *Saccoblastia farinacea*, *Athelidium aurantiacum* and *Hyphoderma obtusifforme*); 9 new to the Polish Carpathians (e.g. *Sistotremastrum suecicum*, *Onnia leporina* and *Lentinellus flabelliformis*).

INTRODUCTION

The mycoflora of the Polish Tatra mountains has been examined for 100 years but is still not well known. In this paper a list of 55 species new to the Polish Tatra National Park is given, with short characterization of their morphology, ecology and distribution in the Polish Carpathians.

The authors wish to thank professor A. Skirgiello for critical remarks and I. Jalocho-Denisiuk, M.Sc., H. Błaszczuk, M.Sc., Dr. Z. Mirek, and L. Plewicki, M.Sc., for the materials of fungi.

Abbreviations

H — Z. Heinrich

J — I. Jalocho

K — H. Komorowska

M — Z. Mirek

W — W. Wojewoda

KRAM — Herbarium of the Botan. Polish Acad. of Sci.

m. — meters above sea level

THE LIST OF SPECIES

Auriculariaceae

Saccoblastia farinacea (Höhn.) Donk — Roztoka valley, c. 1200 m., between Wodogrzmoty Mickiewicza waterfall and Dolina Pięciu Stawów Polskich valley, a spruce forest, on lying trunk of *Picea abies*, 23.7.1972, coll. H, KRAM 25095. Basidiospores hyaline, ovoid to subsphaerical, smooth, not amyloid, $10,8 - 20,4 \times 8,4 - 14,5 \mu\text{m}$, probasidia clavate, metabasidia cylindrical $70 - 100 \times 9 - 12 \mu\text{m}$, divided by transverse septa into 4 cells, germinating in hymenium, hyphae with clamps. New to Poland, known from Canada (Ontario) and Europe: France, Federal Republic of Germany, Austria, Denmark, Estonian SSR (Jülich 1976; Wojewoda 1977, 1981).

Tremellaceae

Basidioidendron cinereum (Bres.) Luck-Allen — Żleb Jaroniec gully near Droga pod Reglami road, in the neighbourhood of Kiry, c. 1000 m., a spruce forest, on decayed stump of *Picea abies*, 9.5.1983, coll. W, KRAM 19925. Basidiospores smooth, not amyloid, $7,2 - 13,2 \times 4,2 - 6 \mu\text{m}$, numerous gloeocystidia. In Polish Carpathians known from 1 locality, in Poland from 7 localities (Wojewoda 1979).

Dacrymycetaceae

Dacrymyces chrysospermus Berk. et Curt. (= *D. palmatus* (Schw.) Bres. in Höhn., nom. nud; McNabb 1973). — Dolina Roztoki valley near Wodogrzmoty Mickiewicza waterfall, c. 1200 m., a spruce forest, on a lying trunk of *Picea abies*, 10.7.1961, coll. W, KRAM 25096. Basidiospores subcylindric or slightly allantoid, 5 - 7-septate, hyphae without clamps. In Polish Carpathians known from Beskid mountains (Gumińska 1966a), in Polish lowland from Białowieża Virgin Forest (Błoński 1896) and Roztocze (Sałata 1972).

D. minor Peck — Staników Żleb gully, near Droga pod Reglami road, c. 1000 m., a spruce forest, on a beam of woody bridge (? *Picea abies*), 10.5.1983, coll. W, KRAM 19933. Basidiospores thin-walled, 0 - 3 septate, hyphae without clamps. Common in Polish Carpathians (but less common than *D. stillatus*).

D. punctiformis Neuh. s. Reid 1974 (= *D. tortus* (Willd.) Fr.) — Goły Wierch mount near Łysa Polana mountain meadow, c. 1200 m., a spruce forest, on a rotten stump of *Picea abies*, 27.3.1977, coll.

W, KRAM 15923. Sporophores yellow with greenish tinge, clamps present, basidiospores 1 - 2-celled with thin walls, $10,5 - 14,5 \times 5,5 \mu\text{m}$. New to Poland, known from Europe, Asia, Amerika, Africa and New Zealand.

D. variisporus McNabb — Opalony Wierch mount, c. 1500 m., a spruce forest, on lying twigs of coniferous tree (? *Picea abies*), 3.6.1972, coll. H, KRAM 13187. Basidiospores $12 - 23 \times 5 - 7 \mu\text{m}$, clamps present. New to Poland, known from Europe, Asia and Amerika.

Cantharellaceae

Craterellus cornucopioides (L.) Pers. — Dolina Spadowiec valley, c. 1020 m., a young forest, 25.9.1959, coll. B. Pawłowski, KRAM 25148. Species not rare in Polish Carpathians, especially in lower positions and in deciduous or mixed forests.

Coniophoraceae

Coniophora puteana (Schum.) P. Karst. — Mała Łąka valley, c. 1180 m., on a rotten beam of an old shepherd's shanty, 5.8.1969, coll. W, KRAM 25097. In Polish Carpathians known only from Bieszczady mountains (Domanski et al. 1963, 1970).

Corticiaceae

Aleurodiscus lapponicus Litsch. — Grześkówki below Sarnia Skala mount, c. 1000 m., a beech-fir forest (*Dentario glandulosae-Fagetum*), on fallen twig, 30.3.1972, coll. M, KRAM 25098. Acanthophyses numerous, spores amyloid, smooth, ellipsoid to subcylindrical, $7,2 - 10,8 (- 12) \times 5,4 - 6,6 \mu\text{m}$, pseudocystidia numerous, $36 - 42 \times 7,2 - 10,8 \mu\text{m}$. It is a boreal subalpine ecotype of *A. cerrusatus* (Bres.) Höhn. et Litsch. known e.g. from Sweden (Eriksson et al. 1973 - 1981). New to Poland.

Amphinema byssoides (Fr.) J. Erikss. — Polana Szalasiska (mountain meadow), c. 1 km E. of Trzydniowiański Wierch, c. 1400 m., on fallen twig of *Picea abies*, 23.7.1972, coll. H, KRAM 25099. Hyphae $2 - 4,5 \mu\text{m}$ in diameter with somewhat thickened walls and numerous clamps, basidiospores ellipsoid, smooth, hyaline, not amyloid, $3,6 - 4,8 \times 2,4 - 3 \mu\text{m}$. The species not rare in Poland but in the Polish Carpathians known hitherto from Bieszczady mountains only (Domanski et al. 1967).

- Amylostereum areolatum* (Fr.) Boid. — Spruce forests, on trunks and stumps of *Picea abies*: below Krokiew mount, c. 1040 m., 23.5.1973, coll. W, KRAM 25152; Wantule, c. 1300 m., 24.5.1973, coll. W, KRAM 25153; below Przysłop Miętusi pass, c. 1070 m., 24.5.1973, coll. W, KRAM 25154; near Rusinowa Polana mountain meadow, c. 1190 m. a.s.l., 27.3.1977, coll. W, KRAM 25155; Wąwóz Kraków ravine, c. 1100 m., 3.7.1977, coll. W, KRAM 25156; between Dolina Strążyska valley and Czerwona Przełęcz pass, c. 1200 m., 6.11.1982, coll. K, KRAM 25088; Jaworzynka Miętusia mount, c. 1250 m. a.s.l., 10.5.1983, coll. W, KRAM 19934. Spores amyloid, cystidia yellowish-brown, encrusted, numerous. Between subiculum and abhymenial layer a dark, dense, thin layer present. New to Polish Carpathians, known hitherto in Poland from Holy-Cross mountains (D o m a ń s k i 1962).
- Athelidium aurantiacum* (M.P. Christ.) Oberw. — Droga nad Reglami road, near Czerwona Przełęcz pass, c. 1300 m., a forest track in a spruce forest, on fallen needles of *Picea abies*, 6.11.1982, coll. H, KRAM 25085. Sporophore orange-yellow, spores $8,4 - 9,6 \times 3,6 - 4,5 \mu\text{m}$, hyphae without clamps. New to Poland, known from Denmark and Federal Republic of Germany (Oberbayern). Hitherto found on *Alnus* and *Salix* (E r i k s s o n et al. 1973 - 1981).
- Botryobasidium botryosum* (Bres.) J. Erikss. — Las Gąsienicowy forest in Czarny Potok stream valley, c. 1480 m., a spruce forest, on lying trunk of *Picea abies*, 16.8.1973, coll. H, KRAM 25101. Spores navicular (pip-shaped), not amyloid, smooth, $8,4 - 12 \times 4,8 - 6 \mu\text{m}$, hyphae without clamps. New to Polish Carpathians, described from North-East Poland (B r e s a d o l a 1903), noted from the Sudetes (D o m a ń s k i 1963).
- B. candicans* J. Erikss. — Between Toporowa Cyrhla mountain meadow and Kopieniec Wielki mount, c. 960 m. a.s.l., a spruce forest with *Juniperus communis*, on twig of *Juniperus*, 21.8.1973, coll. H, KRAM 25102; Kopieniec Wielki mount, c. 1200 m., a spruce forest, on lying trunk and twigs of *Picea abies*, 22.8.1973, coll. H, KRAM 25103; Hala Kondratowa mountain meadow, c. 1300 m. a.s.l., a spruce forest, on a lying trunk, 7.6.1983, coll. K, KRAM 25090. New to Polish Carpathians and to Poland. Known e.g. from Scandinavia.
- B. obtusisporum* J. Erikss. — Spruce forests, on lying trunks of *Picea abies*: Las Gąsienicowy forest in Czarny Potok stream valley, c. 1480 m., 16.8.1973, coll. H, KRAM 25105; Stawiańskie Rówienki, Hala Gąsienicowa mountain meadow, c. 1500 m., 17.8.1983, coll. H, KRAM 25016. Spores smooth, obliquely ovoid, apically obtuse, $6,6 - 9,6 \times 4,2 - 5,4 \mu\text{m}$, hyphae $6 - 10,8 \mu\text{m}$, without clamps. New to Polish Carpathians, and to Poland.

- B. subcoronatum* (Höhn. et Litsch.) Donk — Spruce forests, on trunks and stumps of *Picea abies*: Las Gąsienicowy forest in Czarny Potok stream valley, c. 1480 m., 16.8.1973, coll. H, KRAM 25107; Białka stream between shelter's-home in Rożtoka and Niżnia Polana mountain meadow below Wołoszyn mount, c. 1020 m., 6.6.1983, coll. K, KRAM 25075. Spores navicular with distinct apiculus, hyphae with clamps. In Polish Carpathians known hitherto from Bieszczady mountains only (Domański et al. 1963, 1967, 1970).
- Conferticium ochraceum* (Fr.) Hallenb. (= *Gloeocystidiellum ochraceum* (Fr.) Donk) — Nosal mount, c. 1200 m., a spruce forest, on a lying trunk of *Picea abies*, 7.5.1972, coll. M, KRAM 25100; Wysokie near Kuźnice, c. 1200 m., a spruce forest, on a stump of *Picea abies*, 17.6.1979, coll. W, KRAM 25094; Dolina Kondratowa valley, near Wrótko pass, c. 1320 m., a spruce forest, on a lying trunk of *Picea abies*, 7.6.1983, coll. K, KRAM 25074. Hyphae without clamps, spores amyloid, smooth, $4.2-7.2 \times 2.4-3.5 \mu\text{m}$, gloeocystidia numerous. Known from the Eastern Carpathians (Domański et al. 1967), from Beskid Sądecki mountains (Gumińska 1966a), Babia Góra mount (Wojewoda 1965 sub *Gloeocystidiellum insidiosum*!) and from Silesian Beskid (Teodorowicz 1933). Probably it is a boreal subalpine species.
- Cylindrobasidium evolvens* (Fr.) Jül. — Staników Żleb gully, c. 1100 m., a spruce forest, on fallen twigs of *Salix* sp., 10.5.1983, coll. W, KRAM 19928. In Polish Carpathians known from Babia Góra mount (Wojewoda 1965; Bujakiewicz 1979) and from Bieszczady mountains (Domański et al. 1967, 1970). In Poland, especially on lowland and lower mountain situations very common.
- Cytidia salicina* (Fr.) Burt — Spruce forests, on dead, not fallen twigs of *Salix* sp.: Ku Wancie, Droga Oswalda Balzera road, c. 1200 m., 23.7.1972, coll. H, KRAM 14109; Rybi Potok stream valley, below Polana pod Czubą mountain meadow, c. 1200 m., 18.8.1973, coll. H, KRAM 25108; near Smreczyński Staw lake, c. 1200 m., 3.7.1977, coll. W, KRAM 25157. Fruitbody subgelatinous, cupuliform, looking like a discomycete, dark red or violaceous red. In Polish Carpathians known from Bieszczady mountains (Domański et al. 1963) and Babia Góra mount (Bujakiewicz 1979).
- Gloeocystidiellum porosum* (Berk. et Curt.) Donk — Wierch Spaleniec mount, c. 1000 m., a beech-fir forest (*Dentario glandulosae-Fagetum*), on fallen twig of *Fagus sylvatica*, 6.5.1972, coll. M, KRAM 25109. Spores amyloid, verrucose, $3.6-6.6 \times 2.4-3.6 \mu\text{m}$, gloeocystidia numerous, hyphae with clamps. In the Polish Carpathians known from Bieszczady mountains only (Domański et al. 1963, 1970).

- Hyphoderma obtusifforme* Erikss. et Strid in Erikss. et Ryv. — Dolina ku Dziurze valley, a beech-fir forest (*Dentario glandulosae-Fagetum*), c. 960 m., on a lying trunk of *Fagus sylvatica*, 21.5.1973, coll. W, KRAM 25158. Spores smooth, narrowly ellipsoid, not amyloid, $10,8 - 14,5 \times 4,8 - 6 \mu\text{m}$, cystidia cylindrical enclosed or projecting to $42 \mu\text{m}$, without incrustation, hyphae with clamps, hymenophore cream to yellow. New to Poland, known from Norway and Sweden.
- H. praetermissum* (P. Karst.) Erikss. et Strid. in Erikss. et Ryv. (= *H. tenue* (Pat.) Donk) — Stawiańskie Rówienki (Hala Gąsienicowa mountain meadow), a spruce forest, c. 1460 m., on a lying trunk of *Picea abies*, 17.8.1973, coll. H, KRAM 25110. Spores smooth, not amyloid, $7,2 - 9,6 \times 4,2 - 5,4 \mu\text{m}$, numerous projecting more or less capitate cystidia and enclosed gloecystidia, hyphae with clamps. Known in Polish Carpathians from Bieszczady mountains (Domanski et al. 1967, 1970). In lowland very common.
- Laeticorticium roseum* (Pers.) Donk (= *Corticium roseum* Pers.) — Droga pod Reglami road below Łysanki mount, c. 940 m., beech-fir forest (*Dentario glandulosae-Fagetum*), on a trunk of *Salix* sp., 22.5.1973, coll. W, KRAM 25159; Boczań mount, c. 1220 m., a spruce forest, on fallen twig of *Salix* sp., 17.6.1979, coll. W, KRAM 25092. Numerous probasidia and basidia, hyphae thick-walled with clamps, numerous dendrohyphidia, spores $8 - 15 \times 6,5 - 9,5 \mu\text{m}$, hymenophore rose. In Polish Carpathians known from Bieszczady mountains (Domanski et al. 1963, 1970).
- Megalocystidium leucoxanthum* (Bres.) Jül. (= *Gloeocystidiellum leucoxanthum* (Bres.) Boid.) — Ku Wancie, on the slope of Opalone mount, c. 1150 m., a coniferous forest, on dead, not fallen twig of *Salix* sp., 2.6.1972, coll. H, KRAM 14286. Spores smooth, amyloid, $12,6 - 15,6 \times 5,4 - 7,2 \mu\text{m}$, hyphae with clamps, gloecystidia numerous. New to the Polish Carpathians. The species described from North-East Poland (Bresadola 1903).
- Merulius tremellosus* Fr. — Dolina Małej Łąki valley, c. 1000 m., a spruce forest with *Fagus sylvatica*, on a stump, 5.11.1982, coll. K, KRAM 25091. Not rare in Polish Carpathians and in lowland of Poland.
- Phanerochaete sordida* (P. Karst.) Erikss. et Ryv. in Erikss., Hjortst. et Ryv. — Wierch Spaleniec mount, c. 1050 m., a beech-fir forest (*Dentario glandulosae-Fagetum*), on a fallen twig of *Fagus sylvatica*, 6.5.1972, coll. M, KRAM 25112. Spores smooth, non amyloid, $5,4 - 7,2 \times 3 - 3,6 \mu\text{m}$, cystidia cylindrical, projecting, partially with incrustation, hyphae without clamps, in subiculum with thickened walls. In the Polish Carpathians known from Bieszczady mountains

(D o m a ń s k i et al. 1963, 1967, 1970 sub *Peniophora cremea* (Bres.) Sacc.). Common in Poland.

Phlebiopsis gigantea (Fr.) Jül. — Spruce forests, on trunks, stumps and twigs of *Picea abies*: Przełęcz Białego pass, c. 1300 m., 2.7.1964, coll. W, KRAM 25111; near Stara Roztoka shelter's-home, c. 1000 m., 2.6.1972, coll. H, KRAM 25093; Dolina Strążyska valley, c. 900 m., 22.5.1973, coll. W, KRAM 25160; Kuźnice, c. 1000 m. 23.5.1973, coll. W, KRAM 25161; Wantule, c. 1300 m., 24.5.1973, coll. W, KRAM 25162; Krokiew mount, c. 1040 m., 24.5.1973, coll. W, KRAM 25163; Dolina Suchej Wody valley, below Żółty Potok stream, c. 1350 m., 15.8.1973, coll. H, KRAM 14318; Jaworzynka Miętusia mount, c. 1250 m., 10.5.1983, coll. W, KRAM 19926. New to Polish Carpathians. The species common in Poland in mountains and in lowland.

Plicaturopsis crispa (Fr.) Reid — Grzeškówki, below Sarnia Skala mount, c. 1000 - 1100 m., a beech-fir forest (*Dentario glandulosae-Fagetum*), on fallen twig of *Fagus sylvatica*, 30.3.1972, coll. M, KRAM 25113. In the Polish Carpathians known from Bieszczady (D o m a ń s k i et al. 1960, 1963, 1967, 1970), Low Beskid (D o m a ń s k i 1961), Gorce mountains (W o j e w o d a 1964), Babia Góra mount (W o j e w o d a 1965; B u j a k i e w i c z 1979) and from Pieńiny National Park (G u m i ń s k a 1976).

Resinicium bicolor (Alb. et Schw.) Parm. — Wierch Spaleniec mount, c. 1000 m. a.s.l., a beech-fir forest (*Dentario glandulosae-Fagetum*), on fallen twig of *Fagus sylvatica*, 6.5.1972, coll. M, KRAM 25114; Goły Wierch mount near Łysa Polana, c. 1200 m., a spruce forest, on a stump of *Picea abies*, 27.3.1977, coll. W, KRAM 25164; Wysokie mount near Kuźnice, c. 1280 m. a.s.l. a spruce forest, on a stump of *Picea*, 17.6.1979, coll. W, KRAM 25115; Dolina Małej Łąki valley, c. 1020 m., a spruce forest with *Fagus sylvatica*, on a stump, 5.11.1982, coll. K, KRAM 25086. Numerous star-like cystidia and capitate cystidia present. In Polish Carpathians known hitherto from Bieszczady mountains (D o m a ń s k i et al. 1963, 1967). Very common fungus in Poland.

Sistotrema brinkmannii (Bres.) J. Erikss. — Dolina Lejowa valley, c. 1 km W of Kiry, c. 960 m., a spruce forest, on fallen twigs of *Picea abies*, 9.5.1983, coll. W, KRAM 19930. New to the Polish Carpathians. The species described from Nort-East Poland (B r e s a d o l a 1903) common in whole country.

Sistotremastrum suecicum Litsch. ex J. Erikss. — Wantule, c. 1300 m. a.s.l. a spruce forest, on lying, rotten trunk of *Picea abies*, 24.5.1973, coll. W, KRAM 25165. Basidia $18 \times 5 \mu\text{m}$, with 6 - 8 sterigmata, spores narrowly ellipsoid to short cylindrical, smooth, hyaline, not amyloid,

- 3,6 - 4,8 × 2,5 - 3 μm , hyphae with clamps. New to the Polish Carpathians, in Poland known hitherto from Silesian Upland (Heinrich, Wojewoda 1976).
- Stereum hirsutum* (Willd.) S.F. Gray — Beech-fir forests (*Dentario glandulosae-Fagetum*), on fallen twigs of *Fagus sylvatica*: Grzeškówki below Sarnia Skała mount, c. 1000 m. a.s.l., 30.3.1972, coll. M, KRAM 25116; Wierch Spaleniec mount, c. 1100 m., 6.5.1972, coll. M, KRAM 25117. The fungus very common in Polish Carpathians, especially in lower mountain positions.
- S. rugosum* (Pers.) Fr. — Spruce forests with *Sorbus aucuparia*: Dolina Białki valley, between Roztoka mountain hut and Niżna Polana mountain meadow under Wołoszyn mount, c. 1020 m. a.s.l., on a dead trunk of a deciduous tree, 6.6.1983, coll. K, KRAM 25078; under Smreczyński Staw lake, c. 1200 m., on *Sorbus aucuparia* trunk, 3.7.1977, coll. W, KRAM 25166. Common in the Polish Carpathians, especially in beech forests, in lower mountain situations.
- Tubulicrinis glebulosus* (Bres.) Donk — Kopieniec mount, c. 1060 m. a.s.l., on dead trunk, 21.7.1973, coll. H, KRAM 25118. Cystidia obtuse, 91 - 105 × 9,1 - 12,4 μm , faintly amyloid, spores narrowly cylindrical, curved, smooth, hyaline, thin-walled, not amyloid, 7,6 × 1,9 μm . In the Polish Carpathians known hitherto from Zakopane only, near Tatra National Park (Pilát 1926).
- Tylospora fibrillosa* (Burt) Donk — Sucha Woda stream valley below Żółty Potok stream, c. 1360 m. a.s.l., a spruce forest, on a lying trunk of *Picea abies*, 15.8.1973, coll. H, KRAM 25120; Las Gąsienicowy forest in Czarny Potok stream valley, c. 1480 m., a spruce forest, on a fallen trunk of *Picea abies*, 16.8.1973, coll. H, KRAM 25121; Stawiańskie Rówienki (Hala Gąsienicowa mountain meadow), c. 1460 m., a spruce forest, on a fallen trunk of *Picea abies*, 17.8.1973, coll. H, KRAM 25122; below Polana pod Czuba, Dolina Rybiego Potoku stream valley, c. 1220 m., a spruce forest, on *Picea abies*, 18.8.1973, coll. H, KRAM 25123; Dolina Małej Łąki valley, 980 and 1060 m., a spruce forest with *Fagus sylvatica*, on a stump, 5.11.1982, coll. K, KRAM 25087, 25150. Spores irregularly shape, like *Thelephora terrestris*, with warts, hyphae with clamps. New to Poland, known from Europe (Norway, Sweden, Finland, Denmark, Holland, Federal Republic of Germany, Czechoslovakia, Austria, France) and Canada (Jülich 1972). Probably not rare in the Polish Carpathians.

Hymenochaetaceae

Inonotus nodulosus (Fr.) Pil. — Wierch Spaleniec mount, c. 1100 m., a beech-fir forest (*Dentario glandulosae-Fagetum*), on fallen twigs of *Fagus sylvatica*, 6.5.1972, coll. M, KRAM 25119. Spores $5,4 - 7,2 \times 3 - 4,8 \mu\text{m}$, hymenial setae $16,8 - 24 \times 7,2 - 8,4 \mu\text{m}$, tramal setae absent. Common in the Polish Carpathians, especially in beech forests.

Onnia leporina (Fr.) H. Jahn (= *Onnia circinata* (Fr.) P. Karst. sensu Domański 1975, Ryvar den 1978) — Stawiańskie Rówienki near Hala Gąsienicowa mountain meadow, c. 1460 m. a.s.l., a spruce forest, on a trunk of *Picea abies*, 17.8.1973, coll. H, KRAM 25171. Fruitbody pileate, sessile broadly attached, applanate, setae subulate, hooked, spores broadly ellipsoid, hyaline to pale yellowish, $5,1 - 6,8 \times 3 - 4,3 \mu\text{m}$. New to the Polish Carpathians, in Poland known hitherto from Białowieża Virgin Forest (Domański et al. 1973). In Europe known from Finland, Federal Republic of Germany, German Democratic Republic, Czechoslovakia, Poland and USSR (John 1978).

Phellinus nigrolimitatus (Rom.) Bourd. et Galz. — Las Gąsienicowy forest in Czarny Potok stream valley, c. 1480 m. a.s.l., a spruce forest on a stump of *Picea abies*, 16.8.1973, coll. H, KRAM 25124. Context with thin, dark line, pores 4 - 6 per mm. In Polish Carpathians known from Babia Góra mount (Bujakiewicz 1979) in lowland in Białowieża Virgin Forest and Holy-Cross Mountains (Domański et al. 1973).

Polyporaceae

Bjerkandera adusta (Willd.) P. Karst. — Dolina Rybiego Potoku valley near Ku Wancie, s. 1180 m. a.s.l., a spruce forest, on a trunks and twigs of *Picea abies*, 18.8.1973, coll. H, KRAM 25125. Common in the Polish Carpathians, especially in lower positions in mountains, most often on angiosperms, rarely on gymnosperms.

Daedaleopsis confragosa (Bolt.) Schroet. — Beech-fir forest (*Dentario-glandulosae-Fagetum*), on fallen twigs of *Fagus sylvatica*: Grzeškówki below Sarnia Skała mount, c. 1100 m. a.s.l., 30.3.1972, coll. M, KRAM 25126; Wierch Spaleniec mount, c. 1100 m., 6.5.1972, coll. M, KRAM 25127. Common in the Polish Carpathians, especially in lower mountain positions and in deciduous forests.

Gloeophyllum odoratum (Wulf.) Imaz. — Spruce forests, on trunks and stumps of *Picea abies*: Adamica mount, c. 1200 m. a.s.l., 1.7.1964, coll. W, KRAM 25128; Przełęcz Białego pass, c. 1300 m., 2.7.1964, coll. W, KRAM 25129; Kalacka Turnia, c. 1300 m., coll. W, KRAM 25130;

between Wodogrzmoty Mickiewicza waterfall and Dolina Pięciu Stawów Polskich valley, c. 1300 m., 1.11.1971, coll. H, KRAM 12162; Dolina Roztoki valley, near Stara Roztoka, c. 1360 m., 4.6.1972, coll. H, KRAM 13158; Stara Roztoka, c. 1360 m., 4.6.1972, coll. H, KRAM 25081; Wierch Spaleniec mount, c. 1100 m., 6.5.1972, coll. M, KRAM 25131; near Polana Biały Potok mountain meadow, c. 1000 m., 9.6.1972, coll. H, KRAM 13153; Jaworzynka Miętusia mount, c. 1250 m. a.s.l., 10.5.1983, coll. W, KRAM 19940. Common in the Polish Carpathians.

Ischnoderma benzoinum (Wahl.) P. Karst. — Goły Wierch, c. 1200 m. a.s.l., a spruce forest, on a stump of *Picea abies*, 27.3.1977, coll. W, KRAM 15924. In the Polish Carpathians known from Low Beskid (Domański 1961), Beskid Sądecki mountains (Gumińska 1966a), Bieszczady mountains (Domański et al. 1967) and from Babia Góra mount (Bujakiewicz 1979).

Trametes versicolor (L.) Pil. — Gaśienicowy forest in the valley of Czarny Potok stream near Hala Gaśienicowa mountain meadow, c. 1480 m. a.s.l., a spruce forest, on a stump of *Picea abies*, 16.8.1973, coll. H, KRAM 25133. Common in the Polish Carpathians but especially in beech forests in lower mountain positions and on deciduous trees, rare on conifers.

Trichaptum fuscoviolaceum (Ehrenb.) Ryv. (= *Hirschioporus fuscoviolaceus* (Ehrenb.) Donk) — Spruce forests and (rarely) beech forests on trunks, stumps, roots and twigs of *Picea abies*: between Wodogrzmoty Mickiewicza waterfall and Dolina Pięciu Stawów Polskich valley, c. 1300 m. a.s.l., 1.11.1971, coll. H, KRAM 12164; Wierch Spaleniec mount, c. 1100 m., 6.5.1972, coll. M, KRAM 25134; Dolina Roztoki valley, c. 1100 m., 4.6.1972, coll. H, KRAM 13164; Szalasiska (Taborsko) in Rybi Potok valley, c. 1270 m., 4.6.1972, coll. H, KRAM 25147; Dolina Suchej Wody valley, below Żółty Potok stream, c. 1360 m., 15.8.1973, coll. H, KRAM 25135; Jaworzynka Miętusia mount, c. 1250 m., 10.5.1983, coll. W, KRAM 19924. Very common in the Polish Carpathians.

Thelephoraceae

Thelephora terrestris Fr. — Spruce forests, on fallen twigs and roots of *Picea abies* and on living stems of *Vaccinium myrtillus*: Droga pod Reglami road below Krokiew mount, c. 900 m. a.s.l., 2.7.1964, coll. W, KRAM 25136; below Smreczyński Staw lake, c. 1200 m., 8.7.1964, coll. W, KRAM 25137; between Toporowa Cyrhla and Kopieniec Wielki mount, c. 950 m., 21.7.1973, coll. H, KRAM 25139; Brzeziny

near Toporowa Cyrhla, c. 1000 m., coll. H. Błaszczuk, KRAM 25138. In the Polish Carpathians known from Bieszczady mountains (Domański et al. 1960, 1963), Gorce mountains (Domański 1965), Pieniny National Park (Gumińska 1972), Wieliczka Foothills (Rouppert 1912), Krościenko (Skirgiełło 1959) and Babia Góra mount (Bujakiewicz 1979).

Boletaceae

Tylopilus felleus (Bull.) P. Karst. — Murzasichle, a spruce forest near Cichowiańska Woda stream, c. 820 m. a.s.l., 6.8.1971, coll. L. Plewicki, KRAM 25140. In the Polish Carpathians known from Low Beskid (Gumińska 1962b), Gorce mountains (Domański 1965), Beskid Sądecki mountains (Gumińska 1966a), Pieniny National Park (Gumińska 1972), and Babia Góra mount (Bujakiewicz 1979).

Pleurotaceae

Lentinus adhaerens (Alb. et Schw.) Fr. — Łysa Polana mountain meadow, c. 970 m. a.s.l., a spruce forest, on a stump, 28.5.1964, coll. W, KRAM 25143. In the Polish Carpathians known from Babia Góra mount (Wojewoda 1965; Bujakiewicz 1979), Beskid Sądecki mountains (Gumińska 1966a) and Pieniny National Park (Gumińska 1972).

Lentinellaceae

Lentinellus flabelliformis (Bolt.) Ito — Dolina Białego valley, c. 1000 m. a.s.l., a spruce forest with *Fagus sylvatica*, on very rotten stump, 6.11.1982, coll. K, KRAM 25089. Spores amyloid, verrucose, spherical or subphaerical, $3,6 - 6 \times 3,6 - 4,8 \mu\text{m}$. New to the Polish Carpathians. In Poland known from the Sudetes (Schroeter 1889), Roztocze (Błoński 1896) and Augustów Virgin Forest (Kotłaba, Lazebniček 1967).

Tricholomataceae

Helotium immaculatum (Peck) Redhead (= *Hemimycena gracilis* (Quél.) Sing.) — Dolina ku Dziurze valley, c. 1000 m. a.s.l., a spruce forest, 18.6.1979, coll. W, KRAM 25149. Spores $7,6 - 9,6 \times 1,9 - 2,8 \mu\text{m}$. In the Polish Carpathians known from Gorce mountains (Domański 1965), Beskid Sądecki mountains (Gumińska 1966a) and Babia

- Góra mount (B u j a k i e w i c z 1979). See R e d h e a d (1982): taxonomy of genera *Hemimycena* and *Helotium*.
- Leptoglossum lobatum* (Pers.) Ricken — Dolina Małej Łąki valley, c. 1100 m. a.s.l., a peat, on mosses, 25.7.1978, coll. M, KRAM 25141. New to Polish Carpathians.
- Melanoleuca grammopodia* (Bull.) Pat. — Dolina Lejowa valley, a meadow near a spruce forest, c. 940 m. a.s.l., 9.5.1983, coll. W, KRAM 19942. Spores amyloid, verrucose, $7,2 - 10 \times 5,4 - 7,2 \mu\text{m}$. Pileus 9 cm in diameter. In Polish Carpathians known from Babia Góra mount only (B u j a k i e w i c z 1979).
- Panellus violaceofulvus* (Batsch) Sing. — Grzeškówki below Sarnia Skała mount, c. 1100 m. a.s.l., a beech-fir forest (*Dentario glandulosae-Fagetum*), on fallen trunk of *Abies alba*, 30.3.1972, coll. M, KRAM 25142; Polana Zazadnia, c. 920 m. a coniferous forest, on a trunk of *Picea abies*, 11.5.1973, coll. H, KRAM 14251. Spores $6,7 - 10 \times 2,8 - 3,8 \mu\text{m}$. In Polish Carpathians known from Babia Góra mount (W o j e w o d a 1965; B u j a k i e w i c z 1979) and Pieniny National Park (G u m i ń s k a 1976).
- Strobilurus esculentus* (Wulf.) Sing. — Spruce forests, on fallen cones of *Picea abies*; Murzasichle, between Cichowiańska Woda stream and Sichlański Potok stream, c. 860 m. a.s.l., 4.1971, coll. L. Plewicki, KRAM 11183; Krokiew mount, c. 940 m., 21.5.1970, coll. J, KRAM 25168; Dolina Roztoki valley, c. 1300 m., 4.11.1982, coll. K, KRAM 25144; Dolina Białego valley, c. 1100 m., 6.11.1982, coll. K, KRAM 25145; Dolina nad Capkami valley, c. 980 m., 3. 11.1982, coll. K, KRAM 25151; Dolina Lejowa valley, c. 980 m., 9.5.1983, coll. W, KRAM 19941. In the Polish Carpathians known from Babia Góra mount (W o j e w o d a 1965, B u j a k i e w i c z 1979), Beskid Sądecki mountains (G u m i ń s k a 1966a) and Pieniny National Park (G u m i ń s k a 1969). Common in spruce forests in Poland.
- S. stephanocystis* (Hora) Sing. — North slope of Krokiew mount, c. 940 m. a.s.l., a spruce forest with *Pinus sylvestris*, on fallen cones of *Pinus*, 21.5.1970, coll. J, KRAM 25169. In the Polish Carpathians known from Bieszczady mountains (D o m a ń s k i et al. 1967), Pieniny National Park (G u m i ń s k a 1972) and Babia Góra mount (B u j a k i e w i c z 1979). Very common in Poland in pine forests.
- S. tenacellus* (Pers.) Sing. — North slope of Krokiew mount, c. 940 m. a.s.l., a spruce forest with *Pinus sylvestris*, on fallen cones of *Pinus*, 21.5.1970, coll. J, KRAM 25170. In the Polish Carpathians known hitherto from Pieniny National Park (G u m i ń s k a 1976) and Babia Góra mount (B u j a k i e w i c z 1979). Not rare in Poland in pine forests.

Geastraceae

Geastrum sessile (Sowerby) Pouz. — Below Nosal mount, 950 - 1000 m. a.s.l., 8.1885, coll. J. Krupa (1886 sub *Geaster hygrometricus*!), KRAM 25082; below Kotlinowy Wierch mount, in valley of stream Sucha Woda, c. 1200 m., a spruce forest, on calcareous soil, 15.9.1972, coll. H. Błaszczuk, KRAM 13621; below Kobyła mount, a spruce forest on calcareous soil, c. 1120 m., 15.9.1972, coll. H. Błaszczuk, KRAM 13622. The species incorrectly mentioned from Polish Tatra sub *Geaster hygrometricus* = *Astraeus hygrometricus* (Pres.) Morg. (Krupa 1886; Rouppert 1912; Skirgiełło 1970; Lange 1974). In the Polish Carpathians known from the neighbourhood of Krościenko on the Dunajec river (Skirgiełło 1959), Beskid Sądecki mountains (Gumińska 1962a, 1966a), Pieniny National Park (Gumińska 1966b; Skirgiełło 1968, 1969), and Bieszczady mountains (Domański et al. 1967, 1970). All authors sub *Geastrum fimbriatum*!

CONCLUSIONS

In this list 9 species are new to Poland: *Saccoblastia farinacea*, *Dacrymyces punctiformis*, *D. variisporus*, *Aleurodiscus lapponicus*, *Athelidium aurantiacum*, *Botryobasidium candicans*, *B. obtusisporum*, *Hyphoderma obtusifforme*, *Tylospora fibrillosa*, 9 species are new to the Polish Carpathians: *Amylostereum areolatum*, *Botryobasidium botryosum*, *Megalocystidium leucoxanthum*, *Phlebiopsis gigantea*, *Sistotrema brinkmannii*, *Sistotremastrum suecicum*, *Onnia leporina*, *Lentinellus flabelliformis* and *Leptoglossum lobatum*. All 55 species are new to the Tatra National Park in Poland.

REFERENCES

- Błoński F., 1896, Przyczynek do flory grzybów Polski, Pam. Fizjogr. 14: 63 - 93.
 Bresadola J., 1903, Fungi polonici a cl. Viro B. Eichler lecti, Ann. Mycol. 1: 65 - 131.
 Bujakiewicz A., 1979, Grzyby Babiej Góry I. Mikoflora lasów, Acta Mycol. 15 (2): 213 - 294.
 Domański S., 1961, Materiały do poznania mikoflory nadrzewnej Beskidu Niskiego w okolicy Gorlic, Fragm. Flor. Geobot. 7 (1): 203 - 213.
 Domański S., 1962, Additamenta ad mycofloram lignicolam Reservati Publici ad Sanctam Crucem („Góry Świętokrzyskie”), ib., 8 (4): 509 - 517.
 Domański S., 1963, De Fungis in Sudetis Occidentalibus anno 1961 collectis, Monogr. Bot. 15: 325 - 354.
 Domański S., 1975, Basidiomycetes (Podstawczaki), Aphylophorales (Bezblaszkowe), Mała Flora Grzybów 1 (2), Warszawa - Kraków.
 Domański S., Orłóś H., Skirgiełło A., 1973, Fungi, Warsaw.
 Domański S., Gumińska B., Lisiewska M., Nespiak A., Skir-

- giello A., Truszkowska W., 1963, Mikoflora Bieszczadów Zachodnich, II, Monogr. Bot. 15 : 3 - 75; — 1967, ditto, III, Acta Mycol. 3 : 63 - 114.
- Domański S., Lisiewska M., Majewski T., Skirgiello A., Truszkowska W., Wojewoda W., 1970, ditto, IV, 6 : 129 - 179.
- Domański Z., 1965, Grzyby wyższe doliny Kowańca, ib., 1 : 147 - 167.
- Eriksson J., Hjortstam K., Ryvar den L., 1973 - 1981, The *Corticaceae* of North Europe, vol. 2 - 6, Oslo.
- Gumińska B., 1962a, Grzyby Roztoki Małej w Beskidzie Sądeckim, Fragm. Flor. Geobot. 8 : 205 - 213.
- Gumińska B., 1962b, Mikoflora lasów bukowych Rabsztyna i Maciejowej, Monogr. Bot. 13 : 3 - 85.
- Gumińska B., 1966a, Mikoflora lasów jodlowych okolic Muszyny, Acta Mycol. 2 : 107 - 149.
- Gumińska B., 1966b, Wszechświat (6) : 140 - 142.
- Gumińska B., 1969, Mikoflora Pienińskiego Parku Narodowego, I, Acta Mycol. 5 : 219 - 243; — 1972, ditto, II, 8 : 149 - 174; — 1976, ditto, III, Zesz. Nauk. UJ, Prace Bot. 432 : 127 - 141.
- Heinrich Z., Wojewoda 1976, The effect of fertilization on a Pine forest ecosystem in an industrial region, Ekol. Pol. 24 : 319 - 330.
- Jahn H., 1978, Die Gattung *Onnia* P. Karst., Filzporlinge. Westfäl. Pilzbr. 11 (5) : 79 - 93.
- Jülich W., 1972, Monographie der *Athelieae* (*Corticaceae*, *Basidiomycetes*), Willdenowia, Beiheft 7 : 1 - 283.
- Jülich W., 1976, Zur Morphologie von *Saccoblastia pinicola* und *S. sebacea*, Persoonia 9 (1) : 39 - 48.
- Kotłaba F., Lazebniček J., 1967, IV. sjezd evropských mykologů, Polsko 1966. Česká Mykol. 21 : 54 - 59.
- Krupa J., 1886, Zapiski mikologiczne przeważnie z okolic Lwowa i z Tatr, Kosmos 11 : 370 - 399.
- Lange L., 1974, The distribution of *Macromycetes* in Europe. Dansk Bot. Ark. 30 (1) : 1 - 105.
- McNabb R. F. R., 1973, Taxonomic Studies in the *Dacrymycetaceae* VIII, N. Zeal. J. Bot. 11 : 391 - 586.
- Pilát A., 1926, Les *Agaricales* et *Aphylophorales* des Carpathes Centrales, Bull. Soc. Mycol. France 42 (1 - 2) : 81 - 120.
- Redhead S. A., 1982, The application of *Helotium* to agarics. Part I. Nomenclature. Part II. Notes on selected species from Canada. Can. J. Bot. 60 (10) : 1998 - 2013.
- Reid D. A., A Monograph of the British *Dacrymycetales*, Trans. Brit. Mycol. Soc. 55 : 413 - 441.
- Rouppert K., 1912, Grzyby zebrane w Tatrach, Beskidzie Zachodnim i na Pogórzu, Spraw. Kom. Fizjogr. AU 46 : 80 - 100.
- Ryvar den L., 1978, The *Polyporaceae* of North Europe, vol. 2, Oslo.
- Salata B., 1972, Badania nad udziałem grzybów wyższych w lasach bukowych i jodlowych na Roztoczu Środkowym, Acta Mycol. 8 : 69 - 139.
- Schroeter J., 1889, Pilze Schlesiens, 1, Breslau.
- Skirgiello A., 1959, Notatki mikologiczne z okolic Krościenka nad Dunajcem, Monogr. Bot. 8 : 229 - 235.

- Skirgiello A., 1968, Compte-rendu du IV-ème Congrès des Mycologues Warszawa 1966, Acta Mycol. 4: 181 - 198.
- Skirgiello A., 1970, Materiały do poznania rozmieszczenia geograficznego grzybów wyższych w Europie, III, ib., 6: 101 - 123.
- Teodorowicz F., 1933, Grzyby zachodniej i południowej Polski w zbiorach Zakładu Botaniki Ogólnej Uniwersytetu Poznańskiego, Wyd. Okr. Kom. Ochr. Przyr. Wielkop. Pom. 4: 1 - 34.
- Wojewoda W., 1964, Wstępne uwagi o grzybach Gorców, Fragm. Flor. Geobot. 10 (2): 275 - 282.
- Wojewoda W., 1965, Notatki mikologiczne z Babiej Góry. I, ib., 11 (2): 339 - 353.
- Wojewoda W., 1977, *Mycota 8, Basidiomycetes, Tremellales, Auriculariales, Septobasidiales*, Warszawa - Kraków.
- Wojewoda W., 1979, Rozmieszczenie geograficzne grzybów tremelloidalnych w Polsce, Acta Mycol. 15 (1): 75 - 144.
- Wojewoda W., 1981, *Mała Flora Grzybów, 2, Basidiomycetes, Tremellales, Auriculariales, Septobasidiales*, Warszawa - Kraków.

Makroskopowe podstawczaki nowe we florze Tatrzańskiego Parku Narodowego (Polska)

Streszczenie

Mikoflora polskich Tatr badana jest już od 100 lat, ale ciągle jeszcze jest ona słabo poznana. W Pracowni Mikologii IB PAN w Krakowie od 1969 r. prowadzi się badania nad makroskopijnymi podstawczakami Polskich Karpat, w tym także nad grzybami Tatrzańskiego Parku Narodowego w polskich Tatrach. W tej pracy zestawiono listę 55 gatunków nie podawanych dotychczas z Tatrzańskiego Parku Narodowego. Wśród nich jest 9 gatunków nowych w mikoflorze Polski i 9 nowych w mikoflorze polskich Karpat.