

## Polypores associated with native woody host plants in urban areas of Slovakia

JÁN GÁPER

Technical University, Faculty of Ecology, Dept. of General Ecology,  
Štúrova 2, SK — 960 53 Zvolen, Slovak Republic

Gáper J. (1996): Polypores associated with native woody host plants in urban areas of Slovakia.— *Czech Mycol.* 49: 129–145

Sixty-three species of polypores (Polyporales s.l.) were identified on 38 taxa of native woody host plants out of 476 records in urban areas of Slovak towns and villages. The most common species (more than 20 finds) were *Bjerkandera adusta*, *Daedaleopsis confragosa*, *Fomes fomentarius*, *Phellinus igniarius*, *Phellinus tuberculosus* and *Trametes versicolor*. Twenty-eight species were recorded only once or twice.

**Key words:** Polypores, native woody plants, urban areas, Slovakia.

Gáper J. (1996): Trúdniky na autochtónnych drevinách v urbanizovanom prostredí Slovenska.— *Czech Mycol.* 49: 129–145

Štúdiom 476 nálezov sa identifikovalo 63 druhov trúdnikovitých húb, ktoré sa vyskytovali na 38 taxónoch autochtónnych hostiteľských drevín v slovenských sídlach. Medzi najčastejšie (viac ako 20 nálezov) patria *Bjerkandera adusta*, *Daedaleopsis confragosa*, *Fomes fomentarius*, *Phellinus igniarius*, *Phellinus tuberculosus* a *Trametes versicolor*. Pri 28 druhoch sa zaznamenal iba jeden alebo dva nálezy.

### INTRODUCTION

Only few papers on polypores growing in urban areas have been published in Europe: Benkert (1977) from Germany, Erkkilä and Niemelä (1986) from Finland, Karlvall (1963) from Sweden, Kocsó (1981) from Hungary, Lawrynowicz (1982) from Poland, Seehann (1979) from Germany, Selik and Aksu (1967) from Turkey and Wolkingner (1973) from Austria. Numerous data on polypore distribution and ecology, including Slovak towns and villages were reported in Kotlaba's treatment (Kotlaba 1984).

The present paper is the first contribution to a synopsis of polypores reported on woody host plants in Slovak urban areas and is focused on species associated with native (autochthonous) hosts. The purpose of this paper is to enumerate the polypores (Polyporales s.l.) and to provide additional data concerning distribution, abundance and host relationships of these species. This contribution is part of a long-term project on the chorology and ecology of wood-inhabiting fungi in populated environments in Slovakia.

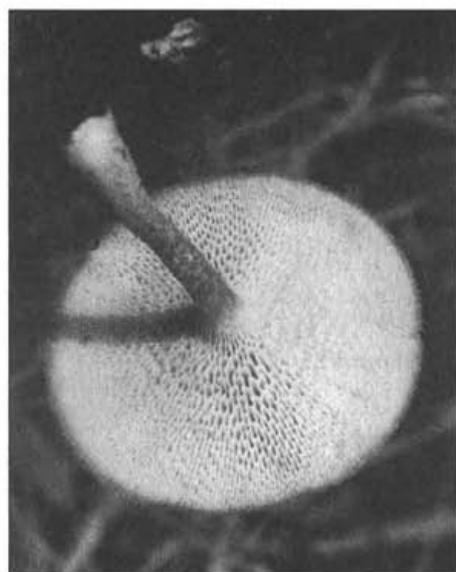


Fig. 1. *Polyporus arcularius* on lying branch of *Carpinus betulus*; "Hrabina" near Jelšava, 16. VIII. 1976 Photo F. Kotlaba



Fig. 2. *Trametes unicolor* on standing dead trunk of *Carpinus betulus*; "Kyšera" near Bardejov, 14. X. 1976. Photo F. Kotlaba

#### MATERIAL AND METHODS

The presented data are based on: (1) Field research by the author carried out from 1982 to 1989. Most records were collected during the summer and autumn months but extensive research covers the whole year. Voucher specimens are held at BRA. (2) Field notes and database (card-file) by František Kotlaba covering the period 1953-1989. (3) Field notes and collections (held at BRA and MJ, respectively) by Jan Kuthan and Petr Vampola.

The towns and villages to which these records refer are indicated on a map (Fig. 1). The names in the list of fungal species have been arranged alphabetically. The components of a record in this list are the following:

Distribution: Name of the town or village. These have been arranged alphabetically. Names in parentheses refer to the districts in which the town or village is located. For each locality the numbers of finds are given.

Hosts: Hosts determined at the species or lower level. From each of them the numbers of finds are given. Hosts are followed by the number of finds. If hosts have remained unidentified at the species level, the numbers of finds for each of them are given.

RESULTS

Out of 476 records 63 polypore species were identified growing on 38 taxa of trees and shrubs considered native to Slovakia.

LIST OF SPECIES

**Abortiporus biennis** (Bull.: Fr.) Singer

Distribution: Bratislava: 1, Dunajská Streda: 2.

Hosts: *Prunus* sp. (2), unknown (1).

**Aurantiporus fissilis** (Berk. et M. A. Curtis) H. Jahn

Distribution: single finds in Michalovce, Rožňava, Slatina (Levice), Slovenská Ľupča (Banská Bystrica), Tomášikovo (Galanta).

Hosts: *Malus sylvestris* var. *domestica* (4), *M. pumila* (1).

**Bjerkandera adusta** (Willd.: Fr.) P. Karst.

Distribution: Banská Bystrica: 1, Bardejov: 1, Bratislava: 5,

Čadca: 1, Filákov (Lučenec): 1, Jasenové (Žilina): 1, Kamenica nad Hronom (Nové Zámky): 1, Košice: 3, Kúty (Senica): 1, Liptovský Hrádok (Liptovský Mikuláš): 1, Lučenec: 2, Nitra: 2, Osturňa (Poprad): 1, Porúbka (Žilina): 1, Prešov: 3, Rajec nad Rajčiankou (Žilina): 1, Rožňava: 1, Topoľčany: 1, Trebišov: 2, Trnava: 1, Vranov nad Topľou: 1, Zbýňov (Žilina): 1, Zvolen: 1, Žiar nad Hronom: 2, Žilina: 3.

Hosts: *Salix fragilis* (3), *Fraxinus excelsior* (2), *Tilia* × *euchlora* (2), single finds on *Acer campestre*, *A. pseudoplatanus*, *Carpinus betulus*, *Fagus sylvatica*, *Populus alba*, *P.* × *canadensis*, *Quercus robur*, *Salix alba* cv. *Tristis*, *Ulmus carpiniifolia*.

*Betula* sp. (4), *Fraxinus* sp. (3), *Salix* sp. (3), *Acer* sp. (2), single finds on *Fagus* sp., *Populus* sp., *Tilia* sp., unknown (8).

**Bjerkandera fumosa** (Pers.: Fr.) P. Karst.

Distribution: single finds in Komárno, Kúty, (Senica), Lučenec.

Hosts: single finds on *Carpinus betulus*, *Salix alba* cv. *Tristis*, *S. fragilis*.

**Ceriporia viridans** (Berk. et Broome) Donk

Distribution: Prešov: 1.

Host: unknown (1).

**Climacocystis borealis** (Fr.) Kotlaba et Pouzar

Distribution: Liptovský Hrádok (Liptovský Mikuláš): 1.

Host: *Picea abies* (1).

**Daedaleopsis confragosa** (Bolton: Fr.) J. Schröt.

Distribution: Bardejov: 1, Červený Kláštor (Poprad): 2, Jasenové (Žilina): 4, Kamenná Poruba (Žilina): 1, Lietavská Lúčka (Žilina): 1, Nitra: 2, Porúbka (Žilina): 2, Považská Bystrica: 2, Prešov: 1, Rajec nad Rajčiankou (Žilina): 2, Rajecké Teplice (Žilina): 2, Rimavská Sobota: 2, Slepčany (Nitra): 1, Trebišov: 1, Zbýňov (Žilina): 1, Žilina: 1.

Hosts: *Salix alba* cv. *Tristis* (8), *S. fragili* (8), *S. alba* (2), *S. alba* cv. *Vitellina* (1).

*Salix* sp. (7).

**Datronia mollis** (Sommerf.: Fr.) Donk

Distribution: single finds in Prešov, Žiar nad Hronom.

Host: *Salix alba* cv. *Tristis* (1).

*Betula* sp. (1).

**Fistulina hepatica** (Schaeff.): Fr.

Distribution: single finds in Obyce (Nitra), Trenčianske Teplice (Trenčín).

Hosts: *Quercus robur* (1).

*Quercus* sp. (1).

**Fomes fomentarius** (L.: Fr.) Fr.

Distribution: Bratislava: 2, Dolný Kubín: 1, Gabčíkovo (Dunajská Streda): 1, Horné Semerovce (Levice): 1, Košice: 1, Martin: 1, Michalovce: 2, Nitra: 1, Rimavská Sobota: 1, Rožňava: 1, Slepčany (Nitra): 1, Šahy (Levice): 1, Tomášovce (Rimavská Sobota): 1, Topoľčany: 1, Trebišov: 1, Trnava: 1, Vranov nad Topľou: 1, Zlaté (Bardejov): 1, Zvolen: 1, Žiar nad Hronom: 1.

Hosts: *Populus alba* (4), *P. × canadensis* (2), *Tilia cordata* (2), *T. platyphyllos* (2), single finds on *Populus nigra* cv. *Italica*, *Salix fragilis*, *S. alba* cv. *Tristis*.

*Fraxinus* sp. (2), single finds on *Acer* sp.,? *A. sp.*, *Populus* sp., *Tilia* sp., unknown (3).

**Fomitopsis pinicola** (Sw.: Fr.) P. Karst.

Distribution: Dolný Kubín: 2, Jasenie (Banská Bystrica): 2, Piešťany (Trnava): 1, Zvolen: 1.

Hosts: *Malus sylvestris* var. *domestica* (2).

*Prunus* sp. (1), unknown (3).

**Ganoderma adpersum** (Schulzer) Donk

Distribution: Banská Štiavnica (Žiar nad Hronom): 1, Bardejov: 1, Bratislava: 2, Čadca: 1, Červený Kláštor (Poprad): 1, Horné Semerovce (Levice): 1, Košice: 1, Levice: 1, Liptovský Mikuláš: 1, Lučenec: 1, Plaveč (Stará Ľubovňa: 2, Poprad: 1, Prešov: 1, Šahy (Levice): 2, Trebišov: 1, Trenčianske Teplice (Trenčín): 1.

Hosts: *Tilia cordata* (7), *Acer pseudoplatanus* (2), single finds on *Fagus sylvatica*, *Fraxinus excelsior*, *Populus alba*, *P. nigra*, *Quercus petraea*, *Sorbus aucuparia*.

*Quercus* sp. (1), *Tilia* sp. (1), unknown (2).

**Ganoderma carnosum** Pat.

Distribution: Bratislava: 2, Michalovce: 1.

Host: unknown (3).

**Ganoderma lipsiense** (Batsch) G. F. Atk.

Distribution: Bardejov: 1, Košice: 1, Liptovský Hrádok (Liptovský Mikuláš): 2, Michalovce: 1, Osturňa (Stará Ľubovňa): 1, Považská Bystrica: 1, Žiar nad Hronom: 1.

Hosts: single finds on *Fraxinus excelsior*, *Picea abies*, *Salix fragilis*, *Tilia cordata*, *T. platyphyllos*.

single finds on *Populus* sp., *Prunus* sp., unknown host.

**Ganoderma resinaceum** Boud. in Pat.

Distribution: Bratislava: 3, Trnava: 1.

Hosts: *Fraxinus excelsior* (2), *Quercus robur* (2).

**Ganoderma** sp.

Distribution: Bratislava: 1.

Host: *Tilia cordata* (1).

**Gloeophyllum abietinum** (Bull.: Fr.) P. Karst.

Distribution: Dolný Kubín: 1, Liptovský Hrádok (Liptovský Mikuláš): 1, Turčianske Teplice (Martin): 1.

Host: *Picea abies* (3).

**Gloeophyllum sepiarium** (Wulfen: Fr.) P. Karst.

Distribution: Košice: 1, Levoča (Spišská Nová Ves): 1, Piešťany (Trnava): 1.  
Hosts: *Abies alba* (2).  
unknown (1).

**Heterobasidium annosus** (Fr.) Bref.

Distribution: Liptovský Hrádok (Liptovský Mikuláš): 2, Michalovce: 1, Trenčianske Teplice (Trenčín): 2, Rajec nad Rajčiankou (Žilina): 1, Rajecké Teplice (Žilina): 1.

Hosts: *Corylus avellana* (2), *Picea abies* (2).  
single finds on *Picea* sp., *Quercus* sp., unknown host.

**Inonotus cuticularis** (Bull.: Fr.) P. Karst.

Distribution: single finds in Breziny (Zvolen), Galanta, Topoľčany, Trebišov, Trnava.

Hosts: *Acer pseudoplatanus* (2), single finds on *A. campestre*, *Alnus glutinosa*, *Pyrus communis*.

**Inonotus dryadeus** (Pers.: Fr.) Murrill

Distribution: Trebišov: 1.  
Host: *Quercus petraea* (1).

**Inonotus hispidus** (Bull.: Fr.) P. Karst.

Distribution: Banská Štiavnica (Žiar nad Hronom): 1, Bohunice (Žiar nad Hronom): 1, Bojnice (Prievidza): 1, Bratislava: 2, Michalovce: 3, Slepčany (Nitra): 1, Šahy (Levice): 1, Trenčianske Teplice (Trenčín): 1, Trenčín: 1, Žilina: 1.

Hosts: *Fraxinus excelsior* (5), *Malus sylvestris* var. *domestica* (3), single finds on *Pyrus communis*, *Sorbus aria*, *S. intermedia*.

*Malus* sp. (2).

**Inonotus nidus-pici** Pilát ex Pilát

Distribution: Liptovský Mikuláš: 1, Trebišov: 2, Zlaté Moravce (Nitra): 2, Zvolen: 1.

Hosts: *Fraxinus excelsior* (2), *Platanus × acerifolia* (2), *Acer pseudoplatanus* (1).

*Fraxinus* sp. (1).

**Inonotus radiatus** (Sowerby: Fr.) P. Karst.

Distribution: Tomášikovo (Galanta): 1.

Host: *Alnus glutinosa* (1).

**Ischnoderma resinosum** (Schrad.: Fr.) P. Karst.

Distribution: Liptovský Hrádok (Liptovský Mikuláš): 1.

Host: *Fagus* sp. (1).

**Laetiporus sulphureus** (Bull.: Fr.) Murrill

Distribution: Červený Kláštor (Poprad): 1, Hámor (Lučenec): 2, Nitra: 2, Tesárske Mlyňany (Nitra): 1, Trebišov: 1, Zvolen: 1.

Hosts: single finds on *Populus alba*, *Prunus domestica*, *Salix alba*, *S. alba* cv. *Tristis*, *S. fragilis*.

*Prunus* sp. (2), *Populus* sp. (1).

**Lenzites betulina** (L.: Fr.) Fr.

Distribution: Bratislava-Karlova Ves: 1, Porúbka (Žilina): 1, Žilina: 1.

Hosts: single finds on *Alnus glutinosa*, *Betula pendula*, unknown (1).

**Meripilus giganteus** (Pers.: Fr.) P. Karst.

Distribution: Bratislava: 1, Kežmarok (Poprad): 1, Levice: 1, Trnava: 2, Žilina: 1.

Hosts: *Fagus sylvatica* (1).

*Acer* sp. (3), on the ground (1), unknown (1).

**Osmoporus odoratus** (Wulfen: Fr.) Singer

Distribution: Bratislava: 1, Jasenové (Žilina): 1, Liptovský Hrádok (Liptovský Mikuláš): 1, Michalovce: 1, Turčianske

Teplice (Martin): 1. Hosts: *Picea abies* (4).

unknown (1).

**Pachykytospora tuberculosa** (DC.: Fr.) Kotlaba et Pouzar

Distribution: Trebišov: 1, Trenčianske Teplice (Trenčín): 1.

Hosts: *Quercus petraea* (1).

*Quercus* sp. (1).

**Perenniporia fraxinea** (Bull.: Fr.) Ryvarden

Distribution: Bratislava: 1, Filákovo (Lučenec): 1. Host: *Acer pseudoplatanus* (2).

**Perenniporia medulla-panis** (Jacq.: Fr.) Donk

Distribution: Liptovský Mikuláš: 1.

Host: *Fraginus excelsior* (1).

**Perenniporia narymica** (Pilát) Pouzar

Distribution: Biel (Trebišov): 1.

Host: *Salix alba* (1).

**Perenniporia tenuis** (Schwein.) Ryvarden

Distribution: Dolná Strehová (Veľký Krtíš): 1.

Host: *Quercus robur* (1).

**Phaeolus schweinitzii** (Fr.: Fr.) Pat.

Distribution: Bratislava: 1.

Host: apparently on the ground (1).

**Phellinus contiguus** (Pers.: Fr.) Pat.

Distribution: Solivar (Prešov): 1.

Host: on a fence (1).

**Phellinus ferruginosus** (Schrad.: Fr.) Pat.

Distribution: Bratislava-Karlova Ves: 1.

Host: unknown (1).

**Phellinus igniarius** (L.: Fr.) Quél.

Distribution: Andrejovka (Stará Ľubovňa): 1, Bratislava: 6, Cígelka (Bardejov): 1, Čadca: 7, Červený Kláštor (Poprad): 3, Dlhôňa (Svidník): 1, Dravce (Spišská



Nová Ves): 1, Fiľakovo (Lučenec): 2, Hrušov (Vranov nad Topľou): 1, Jasenové (Žilina): 1, Komárno: 1, Košice: 7, Krupina (Zvolen): 3, Kružlov (Bardejov): 1, Kysucké Nové Mesto (Čadca): 1, Legnava (Stará Ľubovňa): 1, Liptovský Hrádok (Liptovský Mikuláš): 1, Lučenec: 1, Malá Poľana (Svidník): 1, Nitra: 10, Nižný Hrušov (Vranov nad Topľou): 1, Nižný Orlík (Svidník): 1, Nižný Slavkov (Prešov): 1, Oravské Veselé (Dolný Kubín): 1, Osturňa (Poprad): 2, Plaveč (Stará Ľubovňa): 2, Pohorelská Maša (Banská Bystrica): 1, Poprad: 2, Porúbka (Žilina): 1, Považská Bystrica: 3, Prievidza: 2, Rajec nad Rajčiankou (Žilina): 1, Rajecké Teplice (Žilina): 2, Rimavská Sobota: 1, Senica: 1, Slepčany (Nitra): 1, Stará Ľubovňa: 1, Trebišov: 1, Trenčianske Teplice (Trenčín): 1, Trenčín: 1, Zbýňov (Žilina): 1, Zlaté (Bardejov): 1, Zvolen: 2, Žiar nad Hronom: 1, Žilina: 6.

Hosts: *Salix alba* cv. *Tristis* (49), *S. fragilis* (29), *Sorbus aucuparia* (3), *Salix alba* (2), *Malus sylvestris* var. *domestica* (1).

*Salix* sp. (4), unknown (1).

#### **Phellinus punctatus** (P. Karst.) Pilát

Distribution: Čadca: 1, Dunajská Streda: 1, Považská Bystrica: 6, Rajecké Teplice (Žilina): 1, Topoľčany: 1.

Hosts: *Sorbus aucuparia* (2), *Taxus baccata* (1).

*Prunus* sp. (6), unknown (1).

#### **Phellinus ribis** (Schumach.: Fr.) P. Karst.

Distribution: Bratislava: 1.

Host: *Ribes* sp. (1).

#### **Phellinus robustus** (P. Karst.) Bourdot et Galzin

Distribution: Trebišov: 1, Vinné (Michalovce), 1.

Host: *Quercus petraea* (2).

#### **Phellinus torulosus** (Pers.) Bourdot et Galzin

Distribution: Trenčianske Teplice (Trenčín): 1.

Host: *Quercus* sp. (1).

#### **Phellinus tuberculatus** (Baumg.) Niemelä

Distribution: Andrejovka (Stará Ľubovňa): 1, Cígelka (Bardejov): 1, Dravce (Spišská Nová Ves): 1, Hámor (Lučenec): 1, Jasenové (Žilina): 1, Košice: 2, Legnava

(Stará Ľubovňa): 1, Malá Poľana (Svidník): 1, Martin: 3, Medzilaborce (Humenné): 1, Michalovce: 1, Parchovany (Trebišov): 1, Považská Bystrica: 1, Sazdice (Levice): 1, Senica: 1, Slepčany (Nitra): 3, Slivník (Trebišov): 1, Smolenice (Trnava): 1, Spišská Nová Ves: 1, Šahy (Levice): 1, Trebišov: 1, Vlachovo (Rožňava): 1, Zborov (Bardejov): 1.

Hosts: *Prunus domestica* (14), *P. avium* (1), *P. spinosa* (1).

*Prunus* sp. (11), unknown (1).

**Piptoporus betulinus** (Bull.: Fr.) P. Karst.

Distribution: Bratislava: 1, Jasov (Košice): 1, Piešťany (Trnava): 2.

Host: *Betula pendula* (2).

*Betula* sp. (2).

**Polyporus arcularius** (Batsch): Fr.

Distribution: Kamenica nad Hronom (Nové Zámky): 1.

Host: *Populus alba* (1).

**Polyporus badius** (Gray) Schwein.

Distribution: Košice: 1.

Host: *Tilia cordata* (1).

**Polyporus lentus** Berk.

Distribution: Trenčianske Teplice (Trenčín): 1.

Host: *Quercus* sp. (1).

**Polyporus squamosus** (Huds.) Fr.

Distribution: single finds in Bratislava, Čierna Voda (Galanta), Kamenica nad Hronom (Nové Zámky), Levice, Piešťany (Trnava), Šahy (Levice), Tomášikovo (Galanta), Trenčianske Teplice (Trenčín).

Hosts: *Acer pseudoplatanus* (3), *Populus alba* (2).

*Fraxinus* sp. (1), unknown (2).

**Polyporus varius** (Pers.): Fr.

Distribution: Dolný Kubín: 1, Trenčianske Teplice (Trenčín): 1.

Hosts: *Fagus* sp. (1), unknown (1).

**Pycnoporus cinnabarinus** (Jacq.: Fr.) P. Karst.

Distribution: Trenčianske Teplice (Trenčín): 1.

Host: *Tilia* sp. (1).

**Rigidoporus corticola** (Fr.) Pouzar

Distribution: Lučenec: 1.

Host: *Carpinus betulus* (1).

**Rigidoporus obducens** (Pers.) Pouzar

Distribution: Bardejov: 1, Čadca: 1, Dolný Kubín: 1, Košice: 3, Lučenec: 1, Šahy (Levice): 2, Poprad: 2, Trnava: 1, Trenčín: 1, Turčianske Teplice (Martin): 1, Vranov nad Topľou: 1, Žilina: 3.

Hosts: *Acer platanoides* (4), *A. pseudoplatanus* (4), *Tilia cordata* (3), *Acer campestre* (2), *Sorbus aucuparia* (2).

*Ulmus* sp. (2), *Acer* sp. (1).

**Rigidoporus populinus** (Schumach.: Fr.) Pouzar

Distribution: Košice: 2, Stará Ľubovňa: 2, Žilina: 2, Šahy (Levice): 1, Žiar nad Hronom: 1, Trenčianske Teplice (Trenčín): 1.

Hosts: *Acer pseudoplatanus* (5), *Tilia cordata* (2), *Acer platanoides* (1).

*Populus* sp. (1).

**Schizopora carneo-lutea** (Rodway et Cleland) Kotlaba et Pouzar

Distribution: Topoľčany: 2, Turčianske Teplice (Martin): 1. Hosts: *Acer platanoides* (1), *Tilia cordata* (1).

unknown (1).

**Schizopora paradoxa** (Schrad.: Fr.) Donk

Distribution: Bardejov: 1, Bratislava-Karlova Ves: 1, Červený Kláštor (Poprad): 1, Plaveč (Stará Ľubovňa): 1, Považská Bystrica: 1, Trebišov: 1. Hosts: single finds on *Quercus petraea*, *Salix alba* cv. *Tristis*, *S. fragilis*, *Tilia cordata*.

*Prunus* sp. (1), unknown (1).

**Spongipellis spumeus** (Sowerby: Fr.) Pat.

Distribution: single finds in Krupina (Zvolen), Zvolen.

Hosts: single finds on *Acer platanoides*, *A. pseudoplatanus*.

**Trametes gallica** (Fr.) Fr.

Distribution: Trebišov: 1.

Host: *Fraxinus* sp. (1).

**Trametes gibbosa** (Pers.: Fr.) Fr.

Distribution: single finds in Košice, Žiar nad Hronom.

Hosts: *Carpinus betulus* (1).

unknown (1).

**Trametes hirsuta** (Wulfen: Fr.) Pilát

Distribution: Červený Kláštor (Poprad): 1, Košice: 1, Liptovský Hrádok (Liptovský Mikuláš): 1, Michalovce: 1, Nitra: 2, Prešov: 1, Rajec nad Rajčiankou (Žilina): 1, Vranov nad Topľou: 1.

Hosts: *Sorbus aucuparia* (2), single finds on *Acer pseudoplatanus*, *Salix alba* cv. *Tristis*, *Tilia cordata*. single finds on *Crataegus* sp., *Fraxinus* sp., *Prunus* sp., unknown host.

**Trametes suaveolens** (Fr.) Fr.

Distribution: Andrejovka (Stará Ľubovňa): 1, Bardejov: 1, Dravce (Spišská Nová Ves): 1, Hurbanovo (Komárno): 1, Jasenovce (Žilina): 5, Košice: 1, Košice-Čermel: 1,

Liptovský Hrádok (Liptovský Mikuláš): 1, Osturňa (Poprad):

1, Rajecké Teplice (Žilina): 4, Svidník: 1.

Hosts: *Salix fragilis* (5), *S. alba* cv. *Tristis* (1), *Tilia cordata* (1).

*Salix* sp. (8), *Populus* sp. (2), unknown (1).

**Trametes trogii** Berk. in Trog

Distribution: Bratislava: 1, Košice: 1, Nitra: 2, Slepčany (Nitra): 1.

Hosts: single finds on *Populus alba*, *P. nigra*, *Salix alba* cv. *Tristis*.

single finds on *Populus* sp., unknown host.

**Trametes unicolor** (Bull.: Fr.) Pilát

Distribution: Andrejovka (Stará Ľubovňa): 1, Kysucké Nové Mesto (Čadca): 1, Liptovský Hrádok (Liptovský Mikuláš): 1, Lučenec: 1, Osturňa (Poprad): 1, Trebišov: 1, Trenčianske Teplice (Trenčín): 1, Žilina: 6.

Hosts: *Acer pseudoplatanus* (5), *A. platanoides* (3), single finds on *Fraxinus excelsior*, *Platanus* × *acerifolia*, *Populus nigra*.

single finds on *Fagus* sp., unknown host.

#### *Trametes versicolor* (L.: Fr.) Pilát

Distribution: Bardejov: 1, Jasenové (Žilina): 3, Kamenica nad Hronom (Nové Zámky): 1, Kúty (Senica): 1, Liptovský Hrádok (Liptovský Mikuláš): 2, Liptovský Mikuláš: 1, Lučenec: 1, Michalovce: 2, Poluvsie (Žilina): 2, Porúbka (Žilina): 1, Rajecké Teplice (Žilina): 1, Rajec nad Rajčiankou (Žilina): 1, Tomášikovo (Galanta): 1, Trebišov: 1, Vranov nad Topľou: 1, Zbýňov (Žilina): 1.

Hosts: single finds on *Alnus glutinosa*, *Carpinus betulus*, *Malus sylvestris* var. *domestica*, *Populus alba*, *P. × canadensis*, *Picea abies*.

*Salix* sp. (7), single finds on *Alnus* sp., *Crataegus* sp.,

*Fagus* sp., *Fraxinus* sp., unknown (4).

#### *Trichaptum fuscoviolaceum* (Ehrenb: Fr.) Ryvarden

Distribution: Liptovský Hrádok (Liptovský Mikuláš): 1, Liptovský Mikuláš: 1.

Hosts: *Picea abies* (1).

*Pinus* sp. (1).

The most frequent species were *Phellinus igniarius* (89 records), *Bjerkandera adusta* (39 records), *Phellinus tuberosus* (28 records), *Daedaleopsis confragosa* (26 records), *Fomes fomentarius* (22 records) and *Trametes versicolor* (21 records). Twenty-eight species were recorded only once or twice.

Where possible the host plant was identified to species (or even infraspecific) rank but for *Abortiporus biennis*, *Ceriporia viridans*, *Ganoderma carnosum*, *Ischnoderma resinosum*, *Phellinus ferruginosus*, *Phellinus ribis*, *Phellinus torulosus*, *Polyporus lentus*, *Polyporus varius*, *Pycnoporus cinnabarinus* and *Trametes gallica* only the generic name of the host plant was available. The hosts of *Phaeolus schweinitzii* and *Phellinus contiguus* are unknown, hence their association with a native host species is doubtful. *Populus × canadensis* is a hybrid of North American, European and North African origin but we consider the tree having become a member of the native dendroflora of Slovakia.

#### DISCUSSION

Species such as *Bjerkandera adusta*, *Daedaleopsis confragosa*, *Fomes fomentarius*, *Phellinus igniarius* and *Trametes versicolor* are always common

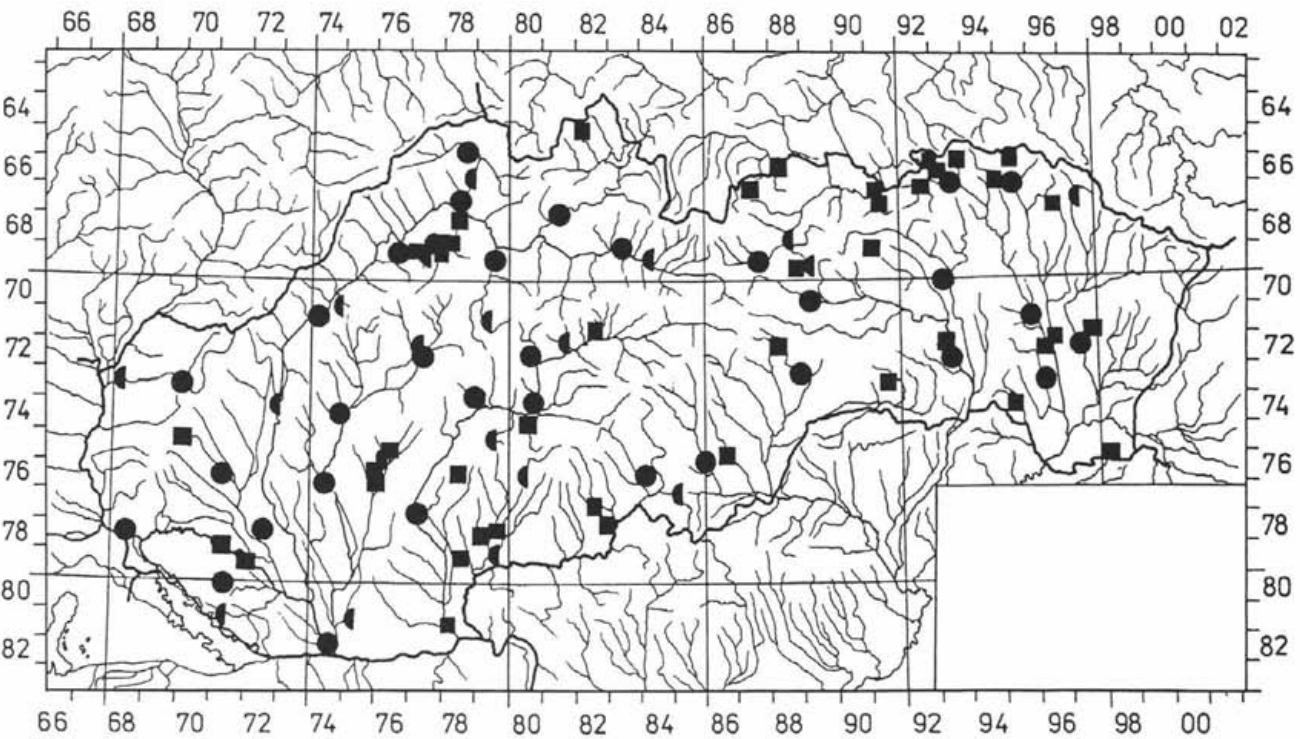


Fig. 3. Towns and villages where polypores were recorded (numerical codes represent squares of the Central European mapping net; circles — district capitals, semicircles — other towns, squares — villages)

in urban areas (with a few exceptions) if the appropriate host was present (Benkert 1977, Erkkilä and Niemelä 1986, Karlvall 1963, Kocsó 1981, Lawrynowicz 1982, Seehann 1979, Selik and Aksu 1967). *Daedaleopsis confragosa* and *Fomes fomentarius* were only locally abundant in Helsinki (Erkkilä and Niemelä 1986) but in Łódź *F. fomentarius* was missing even if the host trees were available (Lawrynowicz 1982). Species of *Betula* are quite common in the urban areas of Slovakia but abundance and density of *Lenzites betulina* and *Piptoporus betulinus* obligatory associates of birches, are extremely low. *Lenzites betulina*, a saproparasite (saprotrophe) may lack appropriate substrates, such as dead or dying trees, trunks and fallen branches due to the maintenance of parks, but there is no explanation for the low abundance of the parasite *Piptoporus betulinus*.

Species with a narrow host range show the great differences in abundance when their hosts are distributed unequally. For example, *Phellinus tuberculosus* is associated with species of *Prunus* which are not very common in public urban areas. Erkkilä and Niemelä (1986) pointed out that probably more data on this species would be gathered in Helsinki if private gardens could be searched more intensively.

*Ganoderma lipsiense* is a dominant species on native woody plants in natural environments of the Czech and Slovak Republics (Kotlaba 1984) but according to our research, it is not frequent in urban area. Erkkilä and Niemelä (1986) reported *G. lipsiense* as common at several Finnish locations but unfortunately, they did not distinguish this species from its look — a like *Ganoderma adspersum* (presented as a "park-inhabiting" variety of *G. lipsiense*). According to our data and data by other authors (Kotlaba 1984, Kotlaba and Pouzar 1971) *G. adspersum* has a clearly synanthropic distribution. There are 19 records of *G. adspersum* but only 8 collections of *G. lipsiense* on native hosts in populated areas of Slovakia. A similar synanthropic distribution was recorded for *Abortiporus biennis*: Kotlaba (1984) reported 9 localities incl. the only one from a city and we are adding two more.

There are some differences in the occurrence and distribution of particular fungal species according to the size of a populated area. Fifty-one species were recorded in the largest cities (district capitals), 42 species in other towns and only 27 species in villages. This could be explained by smaller urban areas in towns and villages and thus a lower host-species range and fewer suitable trees and shrubs. This is evident when comparing town centres, cemeteries and resident areas with similar urban sites in villages. For example, *Ganoderma resinaceum* (associated with *Fraxinus excelsior* and *Quercus robur*), *Inonotus nidus-pici* (associated with *Fraxinus excelsior* and *Platanus × acerifolia*) and *Pachykytospora tuberculosa* (associated with *Quercus* spp.) were recorded only in towns and not in villages where their host trees are rare. Besides, old oaks and ash-trees are less frequent in villages than in towns. There are also differences in the maintenance of urban

areas. Trees in towns suffer from frequent injuries caused by improper pruning and other maintenance. For example, *Ganoderma resinaceum* and *Meripilus giganteus* were usually found to produce fruitbodies at the base of trunks which are often damaged by scythes when cutting lawns. Lawn mowers not only cause mechanical injuries (scratches) but their exhaust gases may damage cambial tissues and lower the resistance against fungal infection.

The results were also influenced by unequal investigation of the territory of Slovakia: some cities were visited several times but data from small towns and villages were recorded less frequently.

### CONCLUSIONS

1. Sixty-three species of polypores were recorded on 38 taxa of autochthonous woody host plants from urban areas in Slovakia.

2. The distribution data of *Abortiporus biennis* and *Ganoderma adspersum* proved their synanthropic character.

3. The highest species diversity was recorded from cities (51 species) and middle-sized towns (42 species). Rural settlements showed a lower diversity (27 species). This is in accordance with the size of available urban areas and the availability of proper host plants there as well as with more intensive field research carried out in towns.

### ACKNOWLEDGEMENTS

I wish to thank Dr. F. Kotlaba (Prague), Jan Kuthan (Šumná), Petr Vampola (Jihlava) and other collectors for providing me with data and collections. Drs. František Kotlaba and Zdeněk Pouzar (Prague) helped identify of some specimens. Also i thank Dr. P. Lizoň (Ithaca, USA) for his valuable comments and critical reading of the manuscript.

The project was partially supported by grant GE 3000 from the Slovak Grant Agency.

### REFERENCES

- BENKERT D. (1977): Die Porlinge und Schichtpilze der Potsdamer Umgebung. – *Gleditschia* 5: 165-202.  
 ERKKILÄ R. and NIEMELÄ T. (1986): Polypores in the parks and forests of the City of Helsinki. – *Karstenia* 26: 1-40.  
 KARLVALF F. (1963): Storsvampar i Göteborgs Botaniska Trädgård, dess naturpark och arboretum. – *Acta Horti Gothob.* 26: 19-62.  
 KOCSÓ M. (1981): Városi zöldterületek novényeinek fobb károsítói és kórokozói. – Sopron, 79 pp.



- KOTLABA F. and POUZAR Z. (1971): *Ganoderma adpersum* (S.Schulz.) Donk - lesklokorka tmavá, dvojník lesklokorky ploské - *G. applanatum* (Pers. ex S.F.Gray) Pat.- Česká Mykol. 25: 88-102.
- KOTLABA F. (1984): Zeměpisné rozšíření a ekologie chorošů (Polyporales s.l.) v Československu. - Praha, 240 pp.
- LAWRYNOWICZ M. (1982): Macrofungal flora of Łódź. - In: Bornkamm R., Lee J. and Seaward M. (eds.) Urban ecology, 2nd European Ecological Symposium Berlin 1980, pp. 41-47, Oxford.
- SEEHANN G. (1979): Holzzerstörende Pilze and Strassen und Parkbaumen in Hamburg. - Mitt. Deutsch. Dendrol. Gesell. 71: 193-321.
- SELIK M. and AKSU S. (1967): Istanbulun park ve korularin- daki yerli veyabancı agac türlerine ariz olan odun tahrip eden mantaarlar. - Istanbul Üniv. Orman Fak. Derg. A. 17: 90-101.
- WOLKINGER F. (1973): Holzzerstörende Basidiomyceten auf *Aesculus hippocastanum* und *Sophora japonica* im Stadgebiet von Graz. - Mitt. Naturwiss. Vereines Steiermark 103: 205-220.