

***Basidiomycetes* inhabiting the ornamental tree *Paulownia* (*Scrophulariaceae*)**

JURAJ PACLT

Nam Benku, Martina 24/4083
81107 Bratislava 1, Slovakia

Accepted 10. 10. 2008

Key words: *Basidiomycetes*. – Fungus-host plant associations, *Paulownia*.

Abstract: Attention is paid to all basidiomycetous species hitherto known to occur on *Paulownia* as host plant. During 1961-1997 nine new fungus-host plant associations from *Paulownia tomentosa* grown in Central Europe could be found by the author. All 25 taxa known are listed.

Zusammenfassung: Basidiomyceten, die bisher von *Paulownia* als Wirtspflanze bekannt sind, werden aufgeführt. Dem Autor gelang es 1961-1997 neun neue Pilz-Wirt-Assoziationen von mitteleuropäischen *Paulownia tomentosa* Bäumen zu finden. Alle 25 bekannten Taxa werden aufgelistet.

Paulownia SIEBOLD & ZUCC. (*Scrophulariaceae*), foxglove-tree, is a far eastern (China, Taiwan, Korea, Japan) genus of deciduous trees favoured as ornamentals due to their showy clusters of foxglove-like flowers. *Paulownia tomentosa* (THUNB.) STEUDEL, empress-(princess)-tree, or purple catalpa, is often planted as garden- and park-tree in C Europe. In Japan, it is much used as cabinet wood (kiri) for musical instruments.

OUDEMANS (1923) lists among other fungi only one basidiomycetous species (*Trametes versicolor*) for *Paulownia* while SEYMOUR (1929) does not mention any macrofungus for that host plant. The substantially more recent index to U. S. fungi and their plant hosts (FARR & al. 1989) cites for *Paulownia* among other taxa only three basidiomycetous species: *Exidiopsis calcea*, *Fomitopsis spraguei*, and *Perenniporia robiniophila*.

The present paper alphabetically lists all *Basidiomycetes* hitherto known on *Paulownia* as host plant. Special attention is paid herein to the collections and new observations of the author. New records for the host are marked by *. Specimens are preserved chiefly in PRM.

List of species

Armillaria mellea (VAHL.: FR.) P. KUMM.

Denmark: on cultivated *Paulownia tomentosa*, shoestring root rot; SPAULDING (1961).

Great Britain: Glam and Devon, on cultivated *P. tomentosa*; MOORE (1959).

In the chapter “Royal paulownia” HEPTING (1971) mentions a root rot caused by *Armillaria mellea* giving, however, no references concerning the occurrence of this fungus on *Paulownia* in the USA.

Athelia rolfsii (CURZI) C.C. TU & KIMBR.

= *Corticium rolfsii* CURZI

= *Pellicularia rolfsii* E. WEST

Taiwan: on *Paulownia fortunei* (SEEM.) HEMSLEY in the basidial stage (as *Pellicularia*), the pathogen of the disease known as Southern Blight (ANONYMOUS 1979).

China: on *P. fortunei* in its sclerotium-forming stage (*Sclerotium rolfsii* SACC.); CHEN (2002).

Corioloopsis gallica (FR.) RYVARDEN

= *Trametes gallica* FR.: FR.

Czech Republic: Moravia, Strážnice (near Hodonín), on a living trunk of *P. tomentosa*, 1. 8. 1972, leg. J. PACLT, det. F. KOTLABA; - Hodonín, on *P. tomentosa*; PACLT (1960, 1961).

According to CHEN (2002), a fungus designated as *Funalia hispida* has been collected on *Paulownia* spec. in China. The invalid combination "*Funalia hispida*" obviously was erroneously used for *Trametes hispida* BAGL., which is nothing else than a synonym of *Trametes gallica*.

Exidiopsis calcea (PERS.: FR.) K. WELLS

= *Sebacina calcea* (PERS.: FR.) BRES.

= *Sebacina letendreana* PAT.

USA: Georgia, on living limbs or dead wood of cultivated *Paulownia tomentosa*; CAMPBELL & al. (1950), HANLIN (1966), FARR & al. (1989).

* *Fomitopsis pinicola* (SOWERBY: FR.) P. KARST.

SW Slovakia: Bratislava, Staré Mesto, Grassalkovichovská záhrada (then Puškinov sad), high up at the crown base of a living trunk of *P. tomentosa*, 6. 8. 1979, leg. J. PACLT, det. F. KOTLABA, PRM 821400.

Fomitopsis spraguei (BERK. & M. A. CURTIS) GILB. & RYVARDEN

= *Leptoporus spraguei* (BERK. & M. A. CURTIS) PILÁT

USA: Alabama, heart rot or on dead wood on cultivated *P. tomentosa*; WESTCOTT (1950), ANONYMOUS (1960), FARR & al. (1989).

* *Ganoderma* cf. *resinaceum* BOUD.

SW Slovakia: Bratislava, Staré Mesto, Radlinského ulica (hind wing of the Faculty Hospital), on root growths and at the base of a living trunk of *P. tomentosa*, 11. 8. 1997, leg. J. PACLT, det. F. KOTLABA.

* *Gloiothele lactescens* (BERK.) HJORTSTAM

= *Gloeocystidiellum lactescens* (BERK.) BOIDIN

SW Slovakia: Bratislava, Staré Mesto, Grassalkovichovská záhrada, on stump of removed *P. tomentosa* tree, 10. 11. 1993, leg. J. PACLT, det. F. KOTLABA & Z. POUZAR, PRM 879511.

Helicobasidium brebissonii (DESM.) DONK
= *Helicobasidium purpureum* PAT.
China: on *Paulownia fortunei*; CHEN (2002).

Helicobasidium mompa TANAKA
= *Stypinella mompa* (TANAKA) LINDAU
Japan: on *Paulownia*; ITÔ (1949).

Helicobasidium tanakae see *Septobasidium*

* *Laetiporus sulphureus* (BULL.: FR.) MURRILL
C Slovakia: Bojnice (near Prievidza), castle area, on a living trunk of old *P. tomentosa*, 14. 7. 1971, J. PACLT; - SW Slovakia: Bratislava, Staré Mesto, námestie SNP, on a living trunk of old *P. tomentosa*, 6. 1972, J. PACLT; - Nitra, town park, on living *P. tomentosa*, 7. 6. 1972, J. PACLT.

The record of PACLT (1953) of a polypore found in 1952 and previously on living *P. tomentosa* growing in Prague in the park near Wilson's railway station (Vrchlického sady) relates to nothing else than *Laetiporus sulphureus*.

Lenzites betulina (L.: FR.) FR.
Korea: on *Paulownia coreana* UYEKI; CHO & SHIN (2004).
USA: on *Paulownia* spec.; GILBERTSON & RYVARDEN (1986: 425, 1987: 530).

Mycena galericulata (SCOP.: FR.) S. F. GRAY
SW Slovakia: Bratislava, Nivy, cemetery Ondrejský cintorín, at the base of a living trunk of *P. tomentosa*, 22. 2. 1974, J. PACLT.
Czech Republic: Moravia, Brno, on *P. tomentosa*; PACLT (1946).

Peniophora cinerea (Pers.: FR.) COOKE
Czech Republic: Moravia, Strážnice (near Hodonín), on a living trunk of *P. tomentosa*, 1. 8. 1972, leg. J. PACLT, det. Z. POUZAR, PRM 718055; - Uherské Hradiště, park around the city hospital, on dead twigs of living *P. tomentosa*, 27. 12. 1981, leg. J. PACLT, det. Z. POUZAR; - Moravia, Hodonín, on *P. tomentosa*; PACLT (1960).

* *Peniophora lycii* (PERS.) HÖHN. & LITSCH.
= *Peniophora caesia* BRES.
SW Slovakia: Báb (near Sered'), on dead twigs of living *P. tomentosa*, 12. 9. 1974, leg. J. PACLT, det. Z. POUZAR, PRM 741798.

Perenniporia robiniophila (MURRILL) RYVARDEN
= *Trametes robiniophila* MURRILL
USA: on cultivated *Paulownia* spec., on trunks; OVERHOLTS (1953), HEPTING (1971), GILBERTSON & RYVARDEN (1987), FARR & al. (1989).

* *Pholiota squarrosa* (BATSCH: FR.) P. KUMM.

Austria: Wien, Leopoldstadt, Prater, Lusthaus, mapping grid square 7864/2, on *P. tomentosa*, 28. 9. 1995, J. PACLT, PRM 886051; HOLEC (2001).

* *Porostereum spadiceum* (PERS.: FR.) HJORTSTAM & RYVARDEN

= *Lopharia spadicea* (PERS.: FR.) BOIDIN

SW Slovakia: Báb (near Sereď), on dead twigs of living *P. tomentosa*, 12. 9. 1974, leg. J. PACLT, det. Z. POUZAR.

* *Radulomyces confluens* (FR.: FR.) M. P. CHRIST.

= *Cerocorticium confluens* (FR.: FR.) JÜLICH & STALPERS

Czech Republic: Moravia, Prostějov, on dead twigs of a living trunk of old *P. tomentosa*, 26. 12. 1976, J. PACLT; - Uherské Hradiště, park around city hospital, on dead twigs of living *P. tomentosa*, 27. 12. 1981, leg. J. PACLT, det. Z. POUZAR.

E Slovakia: Strážske (near Humenné), on dead twigs of living *P. tomentosa*, 10. 11. 1974, J. PACLT; - C Slovakia: Prievidza, town park (near the fountain), on a dead twig of living *P. tomentosa*, 11. 11. 1977, J. PACLT; - S Slovakia: Marcelová (near Komárno), on a living trunk of *P. tomentosa*, 16. 7. 1973, J. PACLT; - SW Slovakia: Rakovice (near Piešťany), horticultural park, on dead twigs of living *P. tomentosa*, 16. 11. 1974, J. PACLT; - Bratislava, Nové Mesto, Vajnorská ulica, on a living trunk of *P. tomentosa*, 7. 9. 1980, J. PACLT.

Schizophyllum commune FR.: FR.

S Slovakia: Marcelová (near Komárno), on a living trunk of *P. tomentosa*, 16. 7. 1973, J. PACLT.

Czech Republic: Moravia, Hodonín, on *P. tomentosa*; PACLT (1960).

USA: California, Yolo County, Davis, on *Paulownia spec.*; NAKASONE (1996), COX & al. (2006).

Korea: on *P. coreana* UYEKI; CHO & SHIN (2004).

Also in *Paulownia*, as in many other ligneous hosts, the fungus causes a characteristic sapwood rot (SINCLAIR & LYON 2005).

Septobasidium tanakae (MIYABE) BOEDIJN & B. A. STEINM.

Far eastern Asia: With partial reference to earlier Japanese authors (K. SAWADA, S. ITÔ), this species is now known to occur on *Paulownia tomentosa* in Japan (SPAULDING 1961), Taiwan (SPAULDING 1961, TAI 1979: 718, CHEN 2002), on *P. taiwaniana* T. HU & H. T. CHANG in Taiwan (ANONYMOUS 1979), and on *P. coreana* in Korea (CHO & SHIN 2004).

Stereum hirsutum (WILLD.: FR.) S. F. GRAY

Czech Republic: Moravia, Brno, on a living trunk of *P. tomentosa*, 12. 4. 1967, J. PACLT; - Hodonín; PACLT (1960).

SW Slovakia: Topolčianky (near Zlaté Moravce), park around the castle, in a fissure of living junior trunk of *P. tomentosa*, 11. 6. 1974, J. PACLT.

Thanatephorus cucumeris (FRANK) DONK

Brazil: isolated from *Paulownia* spec. in anamorphic, sclerotium-forming stage (*Rhizoctonia solani* KÜHN; MENDES & al. 1998), the pathogen of the disease known as *Rhizoctonia* Blight.

* *Trametes hirsuta* (WULFEN: FR.) PILÁT

E Slovakia: Strážske (near Humenné), on dead twigs of living *P. tomentosa*, 10. 11. 1974, leg. J. PACLT, det. Z. POUZAR & F. KOTLABA, PRM 768585; - SW Slovakia: Topolčianky (near Zlaté Moravce), park around the castle, on dead twig of living *P. tomentosa*, 27. 6. 1977, leg. J. PACLT, det. F. KOTLABA.

The specimen PRM 768585 is atypical with a certain similarity to *Trametes versicolor*.

Trametes versicolor (L.: FR.) PILÁT

Czech Republic: Moravia, Brno, on a living trunk of *P. tomentosa*, 24. 3. 1975, J. PACLT; PACLT (1946).

SW Slovakia: Rakovice (near Piešťany), horticultural park, on dead twigs of living *P. tomentosa*, 16. 11. 1974, J. PACLT; - Budmerice (near Trnava), park around a castle, at the dead crown part of a living *P. tomentosa*, 12. 9. 1982, V. PACLTOVÁ & J. PACLT; - Bratislava, Staré Mesto, ulica Palisády, on dead twig of living *P. tomentosa*, 7. 4. 1985, J. PACLT; - Bratislava, Staré Mesto, Grassalkovichovská záhrada (then Puškinov sad), on a living trunk of *P. tomentosa*, 11. 8. 1961 and 4. 3. 1975, J. PACLT.

Korea: on *P. coreana*; CHO & SHIN (2004).

On *Paulownia tomentosa* *Trametes versicolor* was known already by OUDEMANS (1923).

References

- ANONYMOUS, 1960: Index of plant diseases in the United States. – Washington, D. C.: Dept. Agriculture, handbook 165.
- 1979: List of plant diseases in Taiwan. – Taiwan: Pl. Protect. Soc., Republic of China.
- CAMPBELL, W. A., MILLER, J. H., THOMPSON, G. E., 1950: Notes on some wood-decaying fungi of Georgia. – Pl. Dis. Reporter 34: 128-134.
- CHEN, M.-M., 2002: Forest fungi phytogeography. Forest fungi phytogeography of China, North America, and Siberia and international quarantine of tree pathogens. – Sacramento, California: Pacific Mushroom Research Center.
- CHO, W.-D., SHIN, H.-D., (Eds), 2004: List of plant diseases in Korea. 4th edn. – Korea: Korean Soc. Pl. Pathology.
- COX, K. D., SCHERM, H., RILEY, M. B., 2006: Characterization of *Armillaria* spp. from peach orchards in the southeastern United States using fatty acid methyl ester profiling. – Mycol. Res. 110: 414-422.
- FARR, D. F., BILLS, G. F., CHAMURIS, G. P., ROSSMAN, A. Y., 1989: Fungi on plants and plant products in the United States. – St. Paul, Minnesota: APS Press.
- GILBERTSON, R. L., RYVARDEN, L., 1986: North American polypores 1. – Oslo: Fungiflora.
- 1987: North American polypores 2. – Oslo: Fungiflora.
- HANLIN, R. T., 1966: Host index to the Basidiomycetes of Georgia. – Georgia Agric. Exp. Station, Mimeo Ser., n. s., 260: 1-30.
- HEPTING, G. H., 1971: Diseases of forest and shade trees of the United States. – Washington, D. C.: Dept. Agriculture, handbook 386.
- HOLEC, J., 2001: *Pholiota* in Europe. – Libri Botanici 20. – Eching: IHW.

- ITÔ, K., 1949: Studies on "murasaki-monpa" disease caused by *Helicobasidium mompa* TANAKA. – Govt. Forestry Exper. Station Tokyo, Bull. **43**.
- MENDES, M. A. S., DA SILVA, V. L., DIANESE, J. C., FERREIRA, M. A. S. V., DOS SANTOS, C. E. N., GOMES NETO, E., URBEN, A. F., CASTRO, C., 1998: Fungos em Plantas no Brasil. – Brasília: Embrapa-SPI/Embrapa-Cenargen.
- MOORE, W. C., 1959: British parasitic fungi. – Cambridge: University Press.
- NAKASONE, K. K., 1996: Morphological and molecular studies on *Auriculariopsis albomellea* and *Phlebia albida* and a reassessment of *A. ampla*. – *Mycologia* **88**: 762-775.
- OUDEMANS, C. A. J. A., 1923: Enumeratio systematica fungorum 4. – The Hague: Nijhoff.
- OVERHOLTS, L. O., 1953: The *Polyporaceae* of the United States, Alaska and Canada. – Ann Arbor: University of Michigan Press.
- PACLT, J., 1946: *Paulownia* císařská. – Čsl. Zahradník **1**: 649.
- 1953: Choroby a škodcovia pavlovníe. – Biol. Sborník **7** (5-6): 55-59.
- 1960: Mykoflóra odumírající pavlovníe (*Paulownia tomentosa*). The decay of *Paulownia tomentosa*. – Česká Mykol. **14**: 244-247.
- 1961: On some fungi producing phenolic esters. – *Biologia (Lahore)* **6**: 137-139.
- SEYMOUR, A. B., 1929: Host index of the fungi of North America. – Cambridge, Mass.: Harvard University Press.
- SINCLAIR, W. A., LYON, H. H., 2005: Diseases of trees and shrubs. 2nd edn. – Ithaca: Cornell University Press.
- SPAULDING, P., 1961: Foreign diseases of forest trees of the world. – Washington, D. C.: U. S. Dept. Agric., handbook **197**.
- TAI, F.-L., 1979: Sylloge fungorum Sinicorum. – Beijing: Science Press, Academia Sinica.
- WESTCOTT, C., 1950: Plant disease handbook. – New York, Toronto, London: Van Nostrand.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Österreichische Zeitschrift für Pilzkunde](#)

Jahr/Year: 2009

Band/Volume: [18](#)

Autor(en)/Author(s): Paclt Juraj

Artikel/Article: [Basidiomycetes inhabiting the ornamental tree Catalpa \(Bignoniaceae\). 1-6](#)