

## Remarks on the distribution of *Hymenochaete carpatica* in Central and Eastern Europe

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*Hymenochaete carpatica* Pilát is an inconspicuous species that was almost completely overlooked until 1988 (Baici and Léger 1988) since its description in 1930. The ecology and distribution of the species in Central and Eastern Europe is described. *Hymenochaete carpatica* grows only on bark chips of old living trunks of *Acer pseudoplatanus* and has not been found on any other host. This species is known from Austria, the Czech Republic, France, Germany and Slovakia. Recently it was also found in Romania and the Ukraine for the first time. Two maps demonstrate the distribution of *Hymenochaete carpatica* in the Czech Republic and Europe to date.

**Key words:** *Hymenochaete carpatica*, ecology, distribution, Europe

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Kožovka klenová, *Hymenochaete carpatica* Pilát, je nenápadný druh, který byl popsán v roce 1930, ale až do roku 1988 byl přehlížen (Baici and Léger 1988). Druh roste pouze na odlupujících se kusech borky starých stojících kmenů javorů klenů (*Acer pseudoplatanus*). Na jiném hostiteli nebyl druh dosud zaznamenán. Kožovka klenová byla doposud známa z České republiky, Francie, Německa, Rakouska, Slovenska a Švýcarska. Nyní byla poprvé nalezena v Rumunsku a na Ukrajině. Text je doplněn mapami rozšíření druhu v České republice a v Evropě.

### INTRODUCTION

*Hymenochaete carpatica* was described by Albert Pilát in “Monographie der europäischen Stereaceen” (Pilát 1930). The species description is based on the material collected in the Malé Karpaty Mts. in the former Czechoslovakia, presently Slovakia (PRM 686734). This type specimen dated April 1926 was at first confused with *Hymenochaete subfuliginosa* Bourdot & Galzin (Pilát 1927). Lizoň & Jančovičová (2000) state, that the species was described already in 1927, but this is not correct. Since the time of its description only two specimens found by A. Hilitzer and later identified by A. Pilát (Pilát 1933) and one specimen collected by M. Svrček were known from the former Czechoslovakia. This fungus was then completely overlooked until Baici & Léger (1988) collected *Hymenochaete carpatica* in Switzerland. Rücker & Forstinger (1991) described its distribution

in Austria. Krieglsteiner (1993) summarised records published in literature and supplemented them with his own data from Germany, eastern France and western Bohemia. The search of *Hymenochaete carpatica* in the Czech Republic was initiated by Z. Pouzar who knew the species from literature (Baici & Léger 1988).

#### DESCRIPTION

According to Baici & Léger (1988).

*H. carpatica* is characterised by inconspicuous, resupinate basidiocarps with long, smooth setae (50–140 × 6–9 µm) in its hymenium. Basidiocarps firmly attached to the substratum, forming small patches of irregular form. Basidiospores broadly elliptical, hyaline, thin-walled, (5.0)5.5–6.5(7.0) × 3.0–3.5(4.0) µm. Hyphal system monomitic, hyphae simply septate (without clamps). Numerous crystals are present in the trama. The colour of the basidiocarp varies from pale brown to yellowish brown, brown or reddish brown. The species belongs to the section *Gymnochaete* (Léger 1998). The most similar species *H. corrugata* and *H. subfuliginosa* have basidiocarps with a different colour and different microscopic features.

#### ECOLOGY

The ecology of *H. carpatica* is quite unique among species of the genus *Hymenochaete*. This species grows only on chips of bark (rhytidomata) of old trees of *Acer pseudoplatanus*. Most of the collected fruitbodies were observed on the inner side of the rhytidomata and only a few of them were found on the external or on both sides of the bark. No information about growth on other species of *Acer* or some other tree genera is available (Baici & Léger 1988, Krieglsteiner 1993, Rücker & Forstinger 1991, own observations). The data on the type specimen suggest growth on *Acer platanoides*, but after examination of the type it is clear that the original substrate was *A. pseudoplatanus* (Baici & Léger 1988, own observations).

*Hymenochaete carpatica* is known from the lowlands to the mountains. The highest known locality is 1700 m a.s.l. in Switzerland (Baici et Léger), the lowest one was recorded at 85 m a.s.l. in Germany (Krieglsteiner 1993). Most records from the Czech Republic were found at an altitude of 700–1000 m a.s.l., the lowest record at 290 m a.s.l., the highest one at 1220 m a.s.l. Most of my records originate from mixed mountain forests (*Eu-Fagion*) or scree and ravine forests (*Tilio-Acerion*) from lower altitudes. *Hymenochaete carpatica* was also recorded on trees in parks, alleys and old maple trees in villages.

Vertical distribution of *Hymenochaete carpatica* in the Czech Republic:

200–300	300–400	400–500	500–600	600–700	700–800	800–900	900–1000	1000–1100	1100–1200	1200–1300	altitude (m a.s.l.)
1	4	3	7	4	12	15	19	5	9	2	number of records



Fig. 1. Distribution of *Hymenochaete carpatica* in Europe.

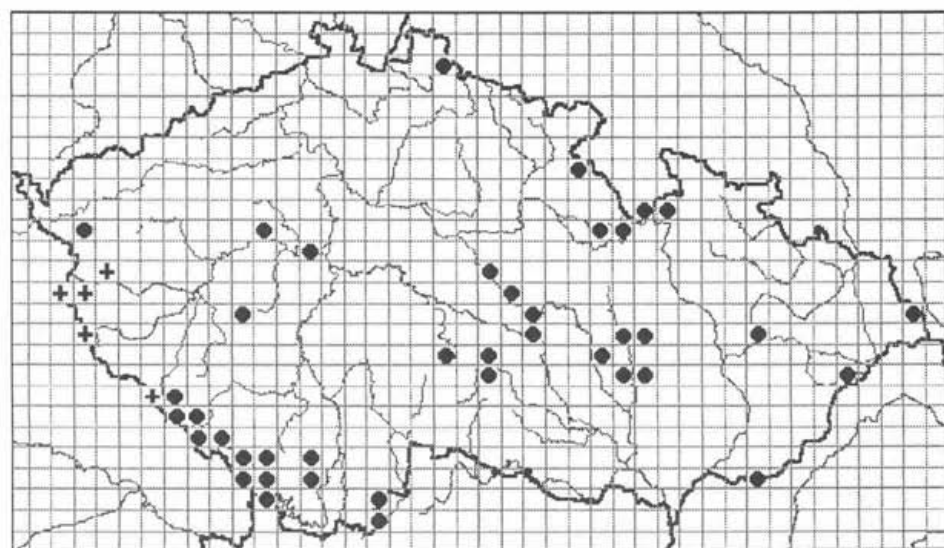


Fig. 2. Distribution of *Hymenochaete carpatica* in the Czech Republic. The crosses demonstrate localities published by Kriegelsteiner (1993).

## DISTRIBUTION

*Hymenochaete carpatica* is known only from Europe (Austria, Germany, former Czechoslovakia, eastern France, Switzerland). I have completed the information with unpublished records from the Czech Republic, Slovakia, Romania and the Ukraine. Most records are documented by specimens deposited in the herbarium of National Museum, Prague (PRM) or Moravian Museum, Brno (BRNM). The collections marked JH (J. Holec) are kept in PRM, but at present they do not yet have the PRM number. All records were collected on *Acer pseudoplatanus*, therefore the substrate is not mentioned at the specimens. The abbreviation M. T. refers to the author.

## Czech Republic

## Western Bohemia

Lázně Kynžvart, park by the castle, leg. et det. M. Svrček, X. 1998, herbarium M. Svrček.

## Jizerské hory Mts.

Hejnice, bank of Velký Štolpich brook, 540 m a.s.l., leg. et det. M. T., 14. IX. 2000, PRM 894251.

## Šumava Mts.

České Žleby, Kapraď Mt., 980 m a.s.l., leg. et det. M. T., 22. IX. 1998, PRM 893833. – České Žleby, Kostelní cesta pathway, 940 m a.s.l., leg. et det. J. Holec, 3. IX. 1999, JH 139/99. – České Žleby, Radvanovický hřbet Mt., 890 m a.s.l., leg. et det. M. T., 8. X. 1998, PRM 893825; *ibid.*, 900 m a.s.l., PRM 893820; *ibid.*, 900 m a.s.l., leg. et det. J. Holec, 17. X. 1997, JH 866/97; *ibid.*, 930 m a.s.l., JH 877/97. – České Žleby, Spáleníště Mt., 930 m a.s.l., leg. et det. Z. Pouzar, 22. IX. 1998, PRM 893816; *ibid.*, 880 m a.s.l., leg. et det. J. Holec, 13. X. 1997, JH 750/97. – České Žleby, Žlebský kopec hill, 1000 m a.s.l., leg. et det. M. T., 13. IX. 1999, PRM 894010. – Horská Kvilda, Pěnivý potok brook, 950 m a.s.l., leg. et det. J. Holec, 1. VII. 1999, JH 74/99. – Horská Kvilda, Zhůří, 1140 m a.s.l., leg. et det. M. T., 19. IX. 1999, PRM 894022. – Kvilda, Orel, 1140 m a.s.l., leg. et det. J. Holec, 6. X. 1998, PRM 897494. – Modrava, Vchynicko-Tetovský kanál, 920 m a.s.l., leg. et det. M. T., 30. VI. 1999, PRM 893817. – Nová Pec, Chornice, 960 m a.s.l., leg. et det. M. T., 22. VI. 1999, PRM 894182. – Nová Pec, Rakouská cesta pathway – border stone No. 1/10, 1040 m a.s.l., leg. et det. M. T., 22. VI. 1999, PRM 894183. – Nová Pec, Smrčina Mt., 1140 m a.s.l., leg. et det. J. Holec, 25. IX. 1997, PRM 891333. – Nová Pec, Smrčina Mt., 1180 m a.s.l., leg. et det. M. T., 4. VI. 1998, PRM 893830; *ibid.*, 1200 m a.s.l., PRM 893823; *ibid.*, 1010 m a.s.l., PRM 893819. – Nová Pec, village, 795 m a.s.l., leg. et det. M. T., 22. VI. 1999, PRM 893822. – Prášily, Formberg, 950 m a.s.l., leg. et det. M. T., 10. VI. 1999, PRM 894013. Prášily, village, 880 m a.s.l., leg. et det. M. T., 26. VIII. 1998, PRM 893832. – Prášily, village, 950 m a.s.l., leg. et det. F. Kotlaba, 5. VIII. 1998, PRM 8922710. – Prášily, Stodůlky, 850 m a.s.l., leg. et det. M. T., 12. VI. 1999, PRM 894015. – Prášily, Ždanidla Mt., 1220 m a.s.l., leg. et det. M. T., 9. VII. 1998, PRM 894055; *ibid.*, 1190 m a.s.l., PRM 894011; *ibid.*, 1140 m a.s.l., PRM 894017. – Srní, Povydří, 680 m a.s.l., leg. et det. J. Holec, 8. X. 1997, JH 633/97. – Srní, Povydří, 920 m a.s.l., leg. et det. M. T., 28. VI. 1999, PRM 893818; *ibid.*, 750 m a.s.l., 24. IX. 1998, PRM 893826. – Srní, Povydří, Horní Hrádky, 900 m a.s.l., leg. et det. M. T., 30. VI. 1999, PRM 893827. – Srní, Povydří, Hrádecký potok brook, 800 m a.s.l., leg. et det. M. T., 30. VI. 1999, PRM 893828. – Srní, Zadní Paště, 810 m a.s.l., leg. et det. M. T., 14. VI. 1999, PRM 893823. – Stožec, Stožecká

skála rock, 976 m a.s.l., leg. et det. M. T., 23. VI. 1999, PRM 893821. – Stožec, Světlá brook, 860 m a.s.l., leg. et det. M. T., 23. VI. 1999, PRM 893831. – Strážný, village, 840 m a.s.l., leg. et det. M. T., 23. IX. 1999, PRM 894019. – Zátoň, Boubín-Pažení, 1100 m a.s.l., leg. et det. J. Holec, 10. VII. 1998, PRM 896998. – Zátoň, Jilmová skála hill, 960 m a.s.l., leg. et det. M. T., 13. X. 1998, PRM 894023; *ibid.*, 1000 m a.s.l., leg. et det. J. Holec et Z. Pouzar, 16. X. 1996, PRM 889509. – Železná Ruda, Černé jezero lake, VIII. 1926, leg. A. Hilitzer, det. A. Pilát, PRM 686735; *ibid.*, 1926, PRM 686736. – Železná Ruda, Medvědí jámy, 850 m a.s.l., leg. et det. J. Holec, 16. VI. 1997, JH 16/97. – Železná Ruda, Debrník, avenue, 800 m a.s.l., leg. et det. M. T., 24. VIII. 1998, PRM 894021; *ibid.*, 7. VII. 1998, PRM 894020. – Železná Ruda, Debrník, mixed forest, 800 m a.s.l., leg. et det. J. Holec, 15. X. 1997, JH 811/97. – Železná Ruda, Ferdinandovo údolí valley, 740 m a.s.l., leg. et det. M. T., 8. VIII. 1998, PRM 894014; *ibid.*, 850 m a.s.l., leg. et det. J. Holec, 16. VI. 1997, PRM 890902. – Železná Ruda, by the road to Špičák, 760 m a.s.l., leg. et det. M. T., 25. VIII. 1998, PRM 894018. – Železná Ruda, Pancíř Mt., 1110 m a.s.l., leg. et det. M. T., 27. VIII. 1999, PRM 894016. – Želna, Černý les forest, 900 m a.s.l., leg. et det. M. T., 24. VI. 1999, PRM 893824.

#### Central Bohemia

Český Kras, Srbsko, Bubovické vodopády waterfalls, 290 m a.s.l., leg. et det. M. T., 31. VIII. 1999, PRM 894465. – Železné hory, Třemošnice, Lovětínská rokle, 750 m a.s.l., leg. et det. M. T., 10. IX. 2000, PRM 894461. – Branov near Křivoklát, valley "V luhu", leg. M. Svrček, 25. VI. 1961, PRM 616218. – Brdy mountains, avenue by Padršské rybníky pounds, leg. et det. J. Holec, 13. XI. 1997, PRM 891657.

#### Southern Bohemia

District Prachatice, Křišťanovice, 800 m a.s.l., leg. et det. M. T., 14. IV. 2000, PRM 894249. – Nové Hrady, Terčino údolí valley, 500 m a.s.l., leg. et det. M. T., 4. VIII. 1999, PRM 894240. – Blanský les Mts., Chrástánský vrch, 750m a.s.l., leg. et det. D. Dvořák, 23. 5. 2001, herbarium D. Dvořák. – Blanský les Mts., Klef Mt., 950 m a.s.l., leg. et det. D. Dvořák, 23. 5. 2001, herbarium D. Dvořák. – District Český Krumlov, Žofínský prales, 760 m a.s.l., leg. et det. M. T., 21. VI. 2001, PRM.

#### Czech-Moravian Highlands

Chotěboř, valley of the Doubravka river, 460 m a.s.l., leg. et det. M. T., 31. VIII. 2000, PRM 894238. – Jihlava, Vysoký kámen hill, 650 m a.s.l., leg. et det. M. T., 6. IX. 2000, PRM 894247. – Pelhřimov, top of Křemešník hill, 760 m a.s.l., leg. et det. M. T., 1. IX. 2000, PRM 894244. – Staré Ransko, avenue in the village, leg. et det. M. T., 11. VIII. 2000, PRM 894235. – Třešť, Velký Špičák Mts., 730 m a.s.l., leg. et det. M. T., 7. IX. 1999, PRM 894245. – Žďár nad Sázavou, castle, 560 m a.s.l., leg. et det. M. T., 21. VIII. 1999, PRM 894243.

#### Eastern Bohemia

District Ústí n. Orlicí, Litice, 430 m a.s.l., leg. et det. M. T., 23. VIII. 2000, PRM 894248. – District Rychnov nad Kněžnou, Potštejn, Modlivý důl, 350 m a.s.l., leg. et det. M. T., 23. VIII. 2000, PRM 894242. – District Rychnov nad Kněžnou, Potštejn, Vochtánka valley, 320 m a.s.l., leg. et det. M. T., 23. VIII. 2000, PRM 894246. – Orlické hory Mts., Sněžné, next to the road to Sedloňov, 590 m a.s.l., leg. et det. M. T., 27. XII. 1999, PRM 894239. – District Ústí n. Orlicí, Velká Morava, Sviní hora Mt., 790 m a.s.l., leg. et det. D. Dvořák, 18. XI. 2000, PRM 894366. – District Ústí n. Orlicí, Horní Morava, Klepý Mt., 660 m a.s.l., leg. et det. D. Dvořák, 14. II. 2001, herbarium D. Dvořák; *ibid.*, 865 m a.s.l., 16. II. 2001.

## Central Moravia

Adamov, Jelení skok, leg. A. Vágner, 5. VI. 1999, BRNM 642784. – Černovice u Kunštátu, Hrádky, leg. A. Vágner, 28. VII. 1999, BRNM 648418. – Černovice u Kunštátu, Káčiny, leg. V. Antonín, 27. IV. 2000, BRNM 652783. – Ochoz u Brna, valley of Říčka brook, 25. V. 2000, leg. V. Antonín, BRNM. – Osiky, Horní Židovka, leg. A. Vágner, 28. VII. 1999, BRNM 648414. – Letovice, park at the castle, leg. A. Vágner, 29. VII. 1999, BRNM 648438. – Úsobrno, Durana, leg. V. Antonín, 10. V. 2000, BRNM.

## Jeseníky Mts.

Branná near Šumperk, valley of Vrbenský potok, leg. A. Vágner, 7. IX. 1999, BRNM 648832.

## Oderské vrchy hills

Hranice, Jezernice valley, leg. et det. Z. Pouzar, 13. VI. 2001, PRM.

## Beskydy Mts.

District Frýdek-Místek, Radhoštěské Beskydy Mts., Bílá, bank of Salajský potok brook, c. 750 m a.s.l., leg. M. Vašutová, 12. VII. 1999, herbarium M. Vašutová. – District Frýdek-Místek, Slezské Beskydy Mts., Nýdek, village, 420 m a.s.l., leg. et det. M. T., 30. IX. 1999, PRM 894460.

## Bílé Karpaty Mts.

Strání, Velká Javořina, *Acer pseudoplatanus*, leg. V. Antonín et A. Vágner, 18. VIII. 2000, BRNM 652866.

## Slovakia

Malé Karpaty Mts. (Kleine Karpathen), Sklená huta (Glasshütten), leg. J. Hruby, det. A. Pilát, IV. 1925, PRM 686734 (typus). – Muránska planina plateau, between Ľadová jama and Havranská šopa, leg. Z. Palice, det. M. T., 11. V. 1999, PRM 894462. – Oravské Beskydy Mts., Babia hora Mt., 1000 m a.s.l., leg. et det. M. T., 29. IX. 2000, PRM 894463. – Slovenský raj, Veľký Sokol valley, 640 m a.s.l., leg. et det. M. T., 11. VI. 1998, PRM 894464. – Slovenský raj, Pily, bank of the brook, 600 m a.s.l., leg. et det. M. T., 9. VI. 1998, PRM 894466.

## Romania

District Suceava, Gura Humorului, in front of the gate of the Humor monastery, leg. M. T. and M. Kolařík, det. M. T., 30. VI. 2000, PRM 894434. – District Suceava, Rarău Mts., by the road from Câmpulung Moldovenesc to the top of Rarău Mt., next to the monastery, leg. et det. M. T., 1. VII. 2000, PRM 894433. – District Suceava, Rarău Mts., top of Rarău Mt., next to mountain hotel, leg. et det. M. T., 1. VII. 2000, PRM 894431. – District Suceava, Rarău Mts., Slătioara, primeval forest, leg. et det. M. T., 1. VII. 2000, PRM 894432. – District Suceava, Caliman Mts., village Gura Haitii, bank of the brook, 1100 m a. s. m., leg. et det. M. T., 30. VI. 2000, PRM 894435.

## Ukraine

Eastern Carpathians, District Rachov, village Kvasy, Mentchul Mt., 48°10'52"N, 24°18'24"E, 900 m a.s.l., leg. et det. J. Holec, 14. VII. 1999, PRM 892898; *ibid.*, 1300 m a.s.l., 13. VII. 1999, PRM 892895. – Eastern Carpathians, District Rachov, village Kvasy, Mentchul Mt., 48°10'34"N, 24°18'10"E, 750 m a.s.l., leg. et det. M. T., 11. VII. 1999, PRM 894467; *ibid.*, 48°10'51"N, 24°17'52"E, 660 m a. s. l., PRM 894468.

### Austria

Voralberg, Mühlviertel, Nordtirol, Salzburg, Steiermark (Kriegelsteiner 1993, Rücker & Forstinger 1991).

### France

Vosges (Kriegelsteiner 1993).

### Germany

Bavaria (Bayerischer Wald, Bayerische Alpenvorland, Oberpfälzer Wald), Baden-Württemberg, Harz Mts., Schwarzwald Mts. etc. (Kriegelsteiner 1993).

### Switzerland

Kantons Fribourg, Glarus, Schwyz, St. Gallen, Zürich (Baicin & Léger 1988).

## DISCUSSION

The distribution of *Hymenochaete carpatica* is not sufficiently known, despite of the old datum of its description. In past the species was overlooked due to its specific ecology. Many *Aphyllphorales* specialists do not even collect *Hymenochaete carpatica*. According to my correspondence with A. Bernicchia and M. Tortić the species is not known from Italy and countries of the former Yugoslavia, but I think the species can occur there. *Hymenochaete carpatica* has neither been reported from Poland. The fungus may be widely distributed in Europe, where it follows the distribution of the only host – *Acer pseudoplatanus*.

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