

Distribution of sweet chestnut *Castanea sativa* Mill. in the Czech Republic

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ABSTRACT: Sweet chestnut *Castanea sativa* Mill. is an introduced species in the Czech Republic. It is recorded roughly from 300 localities. To the end of 2002, the occurrence of chestnut was verified at about 140 macrolocalities. The most northern locality recorded so far was Choustníkovo Hradiště in the region of Hradec Králové. Chestnuts occur generally to an altitude of 500 m (80% of all examined localities), at higher altitudes they suffer from climatic extremes particularly late frosts. The occurrence of chestnut was recorded at 27 localities (ca. 20% localities under investigation) where altitudes exceed 500 m. The highest location of chestnut is locality Nejdek, Karlovy Vary District where chestnut trees thrive at an altitude of 678 m. At altitudes over 600 m, two other localities were recorded. The health condition of chestnut is relatively good. At some localities, however, crown drying occurs as a result of not quite ideal climatic conditions. Within our research, quarantine *Cryphonectria parasitica* (Murr.) Barr. was determined for the first time in the Czech Republic at the only examined locality.

Keywords: *Castanea sativa*; chestnut; distribution; Czech Republic; *Cryphonectria parasitica*; ecology

Sweet chestnut *Castanea sativa* Mill. is an old-time cultivated tree species in Europe. Fruits of relative species of chestnut were already used in ancient China. Similarly, sweet chestnut *Castanea sativa* Mill. was used in Europe. In North America, the homonym of a European chestnut *Castanea dentata* (Marsh.) Borkhausen. and *C. pumila* (L.) Mill. occurs in a number of regions. In Asia, it is possible to find other species such as *Castanea crenata* Sieb. et Zucc., *C. mollissima* Bl., *C. seguinii* Dode, *C. henryi* (Skan) Rehder and Wilson. In Asia, there are more than 50 species of the genus *Castanopsis* (D. Don) Spach. Sweet chestnut prefers temperate and humid climate with moderate winters, requires acid soils and the most frequent parent rock is granodiorite.

The natural grange of the distribution of sweet chestnut *Castanea sativa* Mill. occurs probably in the region of Asia Minor jutting out across the Black Sea region to the western Caucasus. Stands of chestnut are distributed there on southern slopes going from the Black Sea coast. They occur in islets up to the north of the Caucasian ridge (PRIDNYA et al. 1996). The contemporary European populations of chestnut origin from the region of eastern Turkey. The region of western Turkey is considered to be the centre of domestication. From here, chestnut was distributed first to Italy and from there it was distributed

by Romans to the whole Mediterranean and across France to western Europe (VILLANI et al. 1994; OOSTERBAAN 1998; SEEMANN et al. 2001) and also Dalmatia (BRANDE 1973). The same origin is assumed in old-time chestnuts in Great Britain and Ireland. In north Africa, chestnut is distributed in Algeria and Mediterranean ranges of Morocco. In Europe, the present range of chestnut occupies the region of the Balkans from Turkey across Greece, Macedonia and Croatia to the region of the Apennine peninsula to the foothill of the Alps (BENČAŤ 1959). In France, it occurs in the number of localities from northern Alsace – Lorraine across Provence, Auvergne and Massif Central up to the Pyrenees in south. It is the part of stands and some Mediterranean islands such as Corsica, Sardinia, Sicily and the Balearic islands. In the Pyrenean peninsula, stands of chestnut occur in more humid regions of Catalonia, Basque Provinces and particularly Galicia where they pervade as far as Portugal. In the southern part of the Pyrenean peninsula, chestnut occurs in islets in valley slopes with more humid microclimate, viz. the Sierra Nevada, Sierra de Gradacena, Sierra de las Nieves, Sierra Morena etc.

Sweet chestnut *Castanea sativa* Mill. is distributed as an introduced species in the whole Czech Republic. The oldest recorded account on trees in a chestnut stand

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at Kamencové jezero near Chomutov gives BALBÍN in 1679. At that time, the trees were already fertile so that it is possible to suppose the first plantings in the 16th century, i.e. about 300–400 years ago (SVOBODA 1978). The best-known present chestnut stand is situated in Nasavrky. The chestnut orchard was gradually planted there since 1776. The oldest specimens come from the original planting.

Sweet chestnut *Castanea sativa* Mill. does not show any basic economic importance in the Czech Republic. Its outplanting is limited to solitary trees in ornamental plantings. Even though in the past, the first chestnut stands were established with an intention to produce fruits, at present their production is of minor economic importance only. As a stand-forming species chestnut is rather used in an admixture. In the Czech Republic, there are only several stands with more important participation of chestnut. As an example, it is possible to mention a forest stand at Koží Hory, Forest Enterprise Dobříš. There are also several stands with the admixture of chestnut at the Luhačovice Forest District. At present, stands with the occurrence of chestnut are mapped within the National Inventory of Forests.

From the viewpoint of the health condition of chestnut in Europe, particularly a quarantine chestnut blight *Cryphonectria parasitica* (Murr.) Barr. (*Endothia parasitica* (Murr.) And. et And.) appears to be a serious problem. The disease was at first introduced from Asia to North America about 1900 and then to western Europe in 1925. In European sweet chestnut, it was, however, found in the region of the Caucasus as early as 1880 (PRIDNYA 1996). In the region of the former Czechoslovakia, chestnut blight was found in Slovakia, locality Prašice Duchonka, District of Topoľčany in 1976 (JUHÁSOVÁ 1990, 1991 in JUHÁSOVÁ 1999), in the region of the Czech Republic in 2002 (JANKOVSKÝ et al. 2002).

In recent years, increased attention is paid to sweet chestnut *Castanea sativa* Mill. on the ground of an effort to find an equivalent fruit-bearing woody species for game as a substitute for horse chestnut *Aesculus hippocastanum* L. (PŘÍHODA 1999). At present, the species is chronically damaged due to mining by *Cameraria ohridella* Deshka et Dimic.

The aim of this paper is monitoring of sweet chestnut distribution in the Czech Republic as a groundwork for the evaluation of its health condition.

MATERIAL AND METHODS

A basic database on the occurrence of sweet chestnut *Castanea sativa* Mill. in the Czech Republic was prepared on the basis of the evaluation of literature sources and a questionnaire project. The following institutions were asked: authorities of nature conservation, Agencies of nature and landscape conservation (hereafter AOPK), administrations of protected landscape areas and national parks, selected authorities of civil service, forest districts of Forests of the Czech Republic. Available sources of the National Inventory of Forests were

also used. Chestnut trees from an age of about 20 years were recorded.

The occurrence and health condition of chestnut trees is gradually verified. As for mensurational characteristics of trees, girth and the total height of trees are recorded. In case of a tree with several stems at breast height then the girth was measured as girth of individual stems or girth at the ground surface. The tree position was surveyed using GPS for further processing in GIS. Altitudes were also obtained by means of GPS. The accuracy of surveying corresponds to the method.

RESULTS

Information has been obtained on the occurrence of *Castanea sativa* Mill. at 286 localities. Till the end of 2002, the occurrence of chestnut was confirmed methodically in about 140 macrolocalities in the following regions: South Moravia, Zlín, Olomouc, Moravia-Silesia, Highlands, South Bohemia and Pardubice. Individually, in some districts of other regions. The occurrence of more than 400 individual trees was recorded. Together with trees in forest stands, the number of all assessed trees can be estimated to ca. 700. Among macrolocalities, different plantings in a village or forest stands where individual examination could not be carried out in each of the trees are included. On the other hand, it was not possible to confirm the occurrence of chestnut at about 21 localities. Other 150 localities, generally in the western part of the Czech Republic, will be verified in next years.

The northernmost habitat recorded so far was Choustníkovo Hradiště, District of Trutnov (50°26'10N, 15°52'21E) and Náchod (50°25'09N, 16°09'42E). Chestnut trees occur mostly to an altitude of 500 m (80% of all examined localities). At higher altitudes, the species suffers from climatic extremes particularly late frosts. The occurrence of chestnut was recorded at 27 localities (about 20% localities) where altitude exceeds 500 m. The highest locality of chestnut is locality Nejdek, District of Karlovy Vary where chestnut trees thrive at an altitude of 678 m on a slope near the Krásná Vyhlička Hotel. At an altitude of 627 m, chestnut trees were also recorded at the Zubří locality, District of Chrudim. At an altitude of 613 m, the Pivoň locality also occurs in the Domažlice District.

The most robust stems with more than 300 cm girth were recorded at localities Proseč (District of Chrudim, girth 395 cm and 377 cm), Zábřeh (Šumperk, 394 cm), Nejdek (Karlovy Vary, 384 cm), Štěplovce (Opava, 360 cm and 300 cm), Chrást near Chrudim (Chrudim, 310 cm), Herálec near Humpolec (Havlíčkův Brod, 300 cm), Nasavrky (Chrudim, more trees in a chestnut stand). A number of older chestnut trees in plantings is protected at present and their health condition is studied within the AOPK activities. A range of new plantings of chestnut trees by 10 years of age was also recorded, however, the trees were not a subject of the study.

**Survey of macrolocalities of *Castanea sativa* Mill.
verified in 2001–2002**

- 1 **Babice-Řehenice (Prague-east)** – [49°52'55N, 14°37'22E; 347 m alt.] at a road near a house No. 41 three trees 11, 11 and 9 m tall.
- 2 **Bílá Lhota (Olomouc)** – [49°42'35N, 16°58'34E; 271 m alt.] in an arboretum at a castle 18-m tree with 243 cm girth and a 4-m young cultivar with variegated leaves.
- 3 **Blažkov (Žďár nad Sázavou)** – [49°28'22N, 16°11'17E; 538 m alt.] at a bus stop three young trees to 4.5 m tall; at an evangelical church eight young trees to 6 m tall.
- 4 **Blovice (Plzeň-south)** – [49°34'42N, 13°32'36E; 498 m alt.] in a park of the Hradiště castle 9 m tall tree with 102 cm girth.
- 5 **Brandýs nad Labem (Prague-east)** – [50°11'14N, 14°39'27E; 176 m alt.] in the Jilemnického street at a road six trees to 8.5 m tall.
- 6 **Brno (Brno-city)** – [49°12'54N, 16°36'50E; 250–350 m alt.] Černá Pole, arboretum of Mendel University of Agriculture and Forestry ($h = 8.5$ m and 4 m, d.b.h. = 51 and 28 cm); [49°13'02N, 16°37'06E] Černá Pole, Bieblova 24 (two young trees to 4 m tall); [49°13'03N, 16°37'08E] Bieblova 20 ($h = 7.5$ m, d.b.h. = 107 cm); [49°12'29N, 16°35'01E] Kounicovy koleje ($h = 10$ m, d.b.h. = 112 cm, a young tree 3 m tall); [49°13'41N, 16°37'06E] Lesná, Brožíkova street 19 ($h = 7$ –9 m, d.b.h. to 60 cm); [49°09'58N, 16°34'56E] Lány street 34, Secondary Horticultural School ($h = 7.5$ m and 9.5 m, d.b.h. = 60 and 126 cm); [49°13'31N, 16°37'18E] Slavičkova street, area of Maternity School ($h = 11$ and 12 m, d.b.h. to 59 cm); [49°13'03N, 16°37'54E] Slezákova street 14 (a young 6 m tall tree); [49°11'08N, 16°35'29E] Kamenná street ($h = 8$ m and d.b.h. = 113 cm); [49°11'12N, 16°35'36E] Poříčí 5 at the Faculty of Architecture, Brno, University of Technology (two trees, $h = 11$ m, d.b.h. = 106 and 85 cm); [49°13'39N, 16°41'17E] a forest nursery of the Mendel University of Agriculture and Forestry, Faculty of Forestry and Wood Technology, Forest District Bílovice, Forest Range Klajdovka (6 trees 3 to 20 m in height); [49°12'16N, 16°35'43E] University Botanical Garden, Kotlářská street ($h = 12$ m, d.b.h. = 201 cm); [49°11'41N, 16°35'17E] Tvrdého 18, Žlutý kopec (two trees 8 and 10 m tall); [49°11'42N, 16°34'54E] Vinařská 38 (12 m tall triple-stem tree); [49°13'39N, 16°41'17E] Hády, Forest District Bílovice, Forest Range Klajdovka, stand 380 A 9 ($h = 13$ m, d.b.h. = 77 cm) and [49°13'34N, 16°40'58E] 380 B 4 ($h = 12$ m, d.b.h. = 66 cm); [49°12'45N, 16°32'52E] Jundrov, Březová 62 (a young tree 2 m tall); [49°11'38N, 16°33'55E] Pisárky, Veslařská 524 (6 m tall tree); [49°13'06N, 16°34'34E] Žabovřesky, Moravské nám. sqv. 2 (6 m tall tree).
- 7 **Břeclav (Břeclav)** – [48°45'29N, 16°53'41E; 169 m alt.] in Stromořadní street at a road 2 and 4.5 m tall young trees; [48°45'42N, 16°53'17E] Na Řádku street 8–9 five young trees 3 m tall; [48°45'06N, 16°50'30E] in a stand towards Valtice tree 14 m tall.
- 8 **Buchovice (Uherské Hradiště)** – [49°04'58N, 17°19'58E; 285 m alt.] at a road on a grade-separated junction Uherské Hradiště – Brno about 15 shrubby trees to 12 m tall; [49°04'53N, 17°20'21E] in a castle park is nine trees (four triple-stem trees, two forked trees and one four-stem tree to 26 m tall).
- 9 **Částkov (Uherské Hradiště)** – [49°05'20N, 17°37'59E; 319 m alt.] stand 222 B 4, Forest Range Šarovy, Forest District Luhačovice, d.b.h. 22 cm and mean height 17 m, the area of chestnut in the stand is 1.67 ha, participation 5%; [49°05'33N, 17°37'33E] stand 221 D 6, Forest Range Šarovy, Forest District Luhačovice.
- 10 **Černava (Karlovy Vary)** – [50°17'16N, 12°42'30E; 468 m alt.] a young tree 2.5 m tall in a garden in front of the house No. 112.
- 11 **Červené Pečky (Kolín)** – [49°58'47N, 15°12'30E; 259 m alt.] a triple-stem tree with 270 cm girth (the largest stem) and height 19 m in a castle park.
- 12 **České Budějovice (České Budějovice)** – [48°58'08N, 14°28'48E; 427 m alt.] Vrchlického nábřeží 10, a forked tree 10 m tall with 126 and 43 cm girth in a garden.
- 13 **Český Těšín (Karviná)** – [49°44'46N, 18°37'19E; 282 m alt.] Viaduktová 4, in a yard four trees 12 m tall with even 120 cm girth.
- 14 **Dobroslavice (Opava)** – [49°52'41N, 18°08'39E; 361 m alt.] in a park opposite a tennis court a tree 19 m tall with 161 cm girth.
- 15 **Dolany (Olomouc)** – [49°39'44N, 17°20'51E; 341 m alt.] stand 718 A 10, a tree 19 m tall with 172 cm girth.
- 16 **Dolní Rožínka (Žďár nad Sázavou)** – [49°28'26N, 16°12'39E; 511 m alt.] in a castle park one young tree 1.5 m tall and one 17 m tall tree with 247 cm girth (at the ground).
- 17 **Droždín (Olomouc)** – [49°37'47N, 17°20'56E; 378 m alt.] in stands 741 C 13, B 13, [49°37'55N, 17°20'44E] 731 B 9a (a tree 21 m tall with 131 cm girth), F 9 (a tree 9 m tall with 34 cm girth), [49°38'10N, 17°20'59E] in stands 740 B 7, A 7, 740 C 8c chestnut regenerates naturally.
- 18 **Dub (Prachatice)** – [49°06'22N, 14°00'52E; 494 m alt.] in a castle park a forked tree 11 m tall with 101 and 74 cm girth.
- 19 **Erpužice (Tachov)** – [49°48'30N, 13°02'03E; 466 m alt.] in a private garden of the house No. 38 a tree 10 m tall with 131 cm girth.
- 20 **Frenštát pod Radhoštěm (Nový Jičín)** – [49°32'44N, 18°12'51E; 402 m alt.] area of the Remedial School (9-m tree); [49°32'48N, 18°13'19E] Nábřežní (10-m four-stem tree with even 90 cm girth).
- 21 **Frýdek-Místek (Frýdek-Místek)** – [49°41'11N, 18°20'45E; 317 m alt.] in a castle park three trees 11.5, 12.5 and 2.5 m tall with 208, 125 and 3 cm girth, respectively.

- 22 **Guty (Frýdek-Místek)** – [49°38'44N, 18°35'46E; 403 m alt.] opposite the house No. 25 a tree 11.5 m tall with 224 cm girth.
- 23 **Háj ve Slezsku (Opava)** – [49°53'52N, 18°05'34E; 235 m alt.] “Dohnálkův park”, Sokolská street, a tree 17 m tall with 122 cm girth.
- 24 **Herálec u Humpolce (Havlíčkův Brod)** – [49°31'46N, 15°27'15E; 556 m alt.] at the house No. 87 (four trees to 16 m tall with even 160 cm girth, regenerating trees); [49°31'44N, 15°27'48E] in a garden of the house No. 174 (a tree 15 m tall); [49°31'54N, 15°27'12E] in a castle park two trees 22 and 18 m tall with 300 and 280 cm girth.
- 25 **Heřmanův Městec (Chrudim)** – [49°56'33N, 15°39'57E; 219 m alt.] a castle garden – the house of pensioners, two young trees 5 m tall and one 24 m tall with 430 cm girth l kovergrown by *Hedera helix* L. and 10 m tall (triple stem).
- 26 **Hluboká nad Vltavou (České Budějovice)** – [49°03'03N, 14°26'25E; 422 m alt.] in a castle park a tree 13 m tall and a forked tree 12 m tall with 193, 142 and 90 cm girth, respectively.
- 27 **Hluboš (Příbram)** – [49°44'44N, 14°01'06E; 486 m alt.] in a yard of the house No. 23 (tree 8 m tall with 151 cm girth); [49°44'38N, 14°01'13E], house No. 128 (two trees with height to 4 m)
- 28 **Hodonín (Hodonín)** – [48°50'43N, 17°07'49E; 256 m alt.] Janošikova street opposite the house No. 1 a small park, two trees 9 and 7 m tall with 80 and 93 cm girth.
- 29 **Holešov (Kroměříž)** – [49°20'06N, 17°34'53E; 248 m alt.] area of a garden centre beside a park (three trees to 11 m tall with 90, 185 and 190 cm girth); [49°19'59N, 17°34'50E] a park in front of the castle garden (a 13 m tall four-stem tree with girth to 135 cm).
- 30 **Holná (Jindřichův Hradec)** – [49°08'44N, 14°52'24E; 462 m alt.] at a gamekeeper's lodge a triple-stem tree 11 m tall with 166, 75 and 141 cm girth.
- 31 **Horní Bečkovice (Mělník)** – [50°21'26N, 14°21'04E; 203 m alt.] in the area of a mental hospital a forked tree 14 m tall with 83 and 72 cm girth and a triple-stem tree 19 m tall with 133, 122 and 114 cm girth.
- 32 **Horšovský Týn (Domažlice)** – [49°32'03N, 12°56'29E; 392 m alt.] in a castle park in its less preserved part two triple-stem trees 15 and 19 m tall with 84, 63, 75 cm and 87, 57 and 92 cm girth, respectively.
- 33 **Hranice na Moravě (Přerov)** – [49°32'45N, 17°44'22E] an arboretum of the Secondary Forestry School (five trees 6–19 m tall with girth to 31–231 cm); [49°33'11N, 17°43'50E] in front of the House of Youth at the Secondary Technical School (two trees 7 and 14 m tall with 120 and 102 cm girth); [49°33'01N, 17°43'49E] the captain Jaroš settlement, Obránců míru 1357 (a tree 9 m tall with 77 cm girth); [49°33'00N, 17°43'54E] Práteleství 1326 (a tree 9 m tall with 164 cm girth); [49°33'17N, 17°44'38E] Pod Nemocnicí 1464 (three trees to 7 m tall).
- 34 **Chlumec nad Cidlinou (Hradec Králové)** – [50°09'29N, 15°27'05E; 50°09'30N, 15°27'13E; 352 m alt.] in a castle park two forked trees 12 and 9 m tall with 100, 90 cm and 115, 160 cm girth, respectively.
- 35 **Chotěboř (Havlíčkův Brod)** – [49°42'46N, 15°39'52E; 532 m alt.] Na Výsluní 1250 (three trees to 7.5 m tall); [49°42'48N, 15°39'57E] Havlíčkova street (two trees 6.5 and 9 m tall with 62 and 73 cm girth); [49°43'16N, 15°40'15E] Trčků z Lípy 49 (two 8-m trees with 237 and 266 cm girth).
- 36 **Chotěbuz-Mosty (Karviná)** – [49°44'53N, 18°35'08E; 350 m alt.] in a private garden of the house No. 25 a tree 8 m tall with 98 cm girth.
- 37 **Chotoviny (Tábor)** – [49°28'41N, 14°40'54E; 541 m alt.] in the castle park a tree 15 m tall with 265 cm girth.
- 38 **Choustníkovo Hradiště (Trutnov)** – [50°26'10N, 15°52'21E] behind a gamekeeper's lodge at the forest 11 trees 4–11 m tall with 40–100 cm girth.
- 39 **Chrast u Chrudimi (Chrudim)** – [49°53'56N, 15°56'26E; 565 m alt.] in the more remote part of the castle park trees 13 and 11 m tall with 310 and 160 cm girth.
- 40 **Chrudim (Chrudim)** – [49°56'43N, 15°47'48E; 244 m alt.] Jungmanovo nábřeží III. No. 114 three trees 4–5 m tall.
- 41 **Chudobín (Olomouc)** – [49°41'19N, 17°01'49E; 257 m alt.] in the castle park near tennis courts five trees the largest of them being a five-stem tree 22 m tall with 282, 288, 286, 205, 238 cm girth.
- 42 **Jablunkov (Frýdek-Místek)** – [49°34'23N, 18°45'13E; 398 m alt.] at glasshouses of the Pulmonary Sanatorium a tree 6 m tall.
- 43 **Jakubovice (Šumperk)** – [49°59'30N, 16°49'52E; 486 m alt.] in a private garden of the house No. 8 and in front of it (two trees 5 and 9 m tall with 85 and 76 cm girth); [49°59'41N, 16°49'40E] near a shop (one 9.5 m tall tree with 95 cm girth).
- 44 **Jemnice (Třebíč)** – [49°01'50N, 15°27'16E; 501 m alt.] on the dike of the Hluboký rybník pond (23 trees of mean height 21 m and 56–202 cm girth); [49°01'04N, 15°34'50E; 369 m alt.] in a park near the mental hospital (a 16 m tall triple-stem tree with 93, 90, 98 cm girth); [49°02'03N, 15°37'15E] a 14-m tree behind the Hluboký rybník pond.
- 45 **Jevišovice (Znojmo)** – [48°59'14N, 15°58'32E; 221 m alt.] at a lodge a forked tree 12 m tall with 68 and 64 cm girth.
- 46 **Jindřichův Hradec (Jindřichův Hradec)** – [49°08'21N, 14°59'42E; 484 m alt.] in a park near the building of Forests of the Czech Republic (LČR), Regional Inspectorate of LČR and Forest District two trees 14 and 22 m tall with 129 cm girth and a forked tree with 123 and 109 cm girth.

- 47 **Karviná (Karviná)** – [49°51'50N, 18°31'52E; 449 m alt.] in front of the Družby Elementary School [three trees 18, 10.5 m and 13.5 m tall with 120, 109 and 112 cm girth (triple-stem tree), 180 and 172 cm girth, respectively]; [49°52'10N, 18°33'21E] Slovenská 2887 (in front of the house three trees 13 m tall with girths to 126 cm); [49°52'09N, 18°32'21E] area of a hospital (three trees to 13 m tall with girths to 140 cm); [49°51'57N, 18°32'07E] in Mírová street in front of District Authority (two trees 15 and 16 m tall with 121 and 161 cm girth).
- 48 **Katov (Tábor)** – [49°16'56N, 14°49'37E; 481 m alt.] in a garden of the house No. 13 a tree 8 m tall with 82 cm girth.
- 49 **Klatovy (Klatovy)** – [49°23'12N, 13°18'03E; 407 m alt.] in the town park one young tree 3 m tall and a four-stem tree 17 m tall with 135, 144, 149 and 64 cm girth.
- 50 **Kolišov (Písek)** – [49°22'46N, 14°24'43E; 451 m alt.] in a private park at a road one shrubby tree 8.5 m tall.
- 51 **Konopiště (Benešov)** – [49°46'44N, 14°39'26E; 406 m alt.] in the castle park a triple-stem tree 25 m tall with 220, 190 and 290 cm girth.
- 52 **Kostelní Bříza (Sokolov)** – [50°06'52N, 12°37'10E; 469 m alt.] in a poorly maintained park a tree 18 m tall with 127 cm girth.
- 53 **Kozí Hory (Dobříš)** – [49°45'40N, 14°14'18E; 396 m alt.] stand 419 G 4, about 300 trees of a mean height of 16 m and d.b.h. 23 cm.
- 54 **Krásný Dvůr (Louny)** – [50°14'51N, 13°21'38E; 259 m alt.] in the town park near a theatre a tree 19 m tall with 158 cm girth.
- 55 **Krasnice (Jihlava)** – [49°06'55N, 15°36'49E; 540 m alt.] in a poorly maintained castle garden, castle No. 9, a tree 15 m tall with 250 cm girth.
- 56 **Kroměříž (Kroměříž)** – [49°17'31N, 17°23'54E; 207 m alt.] in the area of the Nursery School, Gorkého 2566, four trees 9–14 m tall with girths to 145 cm; [49°18'06N, 17°23'47E] in a park one drying tree 12 m tall with 266 cm girth and two trees to 10 m.
- 57 **Křivošín (Tábor)** – [49°29'57N, 14°33'43E; 449 m alt.] in a private garden at the village border a tree 14 m tall with 251 cm girth.
- 58 **Křtiny (Blansko)** – [49°19'16N, 16°44'23E; 514 m alt.] in the arboretum of Mendel University of Agriculture and Forestry in Brno a forked tree 19 m tall with 235 and 168 cm girth; [49°19'20N, 16°44'44E] in the area of a forest nursery at the arboretum three young trees 4 m tall.
- 59 **Kuks (Trutnov)** – [50°23'51N, 15°53'17E; 406 m alt.] in the castle park a forked tree 8 m tall with 80 and 80 cm girth.
- 60 **Kunětická Hora (Pardubice)** – [50°04'48N, 15°48'52E; 205 m alt.] in a grove on the southern side of the mountain towards Ráby a tree 21 m tall with 218 cm girth.
- 61 **Kyjovice (Opava)** – [49°49'51N, 18°02'39E; 397 m alt.] in the castle park – the House of Pensioners, two triple-stem trees and one four-stem tree 22 and 23 m tall with the greatest girth of 222 cm.
- 62 **Lčovice (Prachatic)** – [49°06'58N, 13°51'11E; 571 m alt.] in the castle park a tree 12 m tall with 120 cm girth.
- 63 **Lednicko-Valtický areál (Břeclav)** – [48°46'43N, 16°47'23E; 173 m alt.] Forest Enterprise Židlochovice, Forest Range Valtice, stand 702 B 7, about 50 trees of a mean height of 21 m with greatest girth of 159 cm.
- 64 **Libáň (Chrudim)** – [49°51'44N, 15°49'26E; 407 m alt.] in the garden of plot No. 677 a tree 5 m tall with 58 cm girth; [49°51'49N, 15°49'18E] two trees near a monument of František Reich at a game preserve 6 and 8.5 m tall.
- 65 **Linhartovy (Bruntál)** – [50°08'17N, 17°36'51E; 387 m alt.] in the castle park old trees were felled recently, however, they would be replaced by four young 3-year-old chestnut plants.
- 66 **Lískovec (Ždár nad Sázavou)** – [49°28'57N, 16°19'00E] a tree ramified at the ground surface growing at a road on the lower margin of the village, shrubby growth.
- 67 **Lišno (Benešov)** – [49°43'40N, 14°41'53E; 560 m alt.] young trees at the Antonínka pond behind the castle park.
- 68 **Loučná nad Desnou (Šumperk)** – [50°04'03N, 17°05'28E; 397 m alt.] in the castle park a tree 23 m tall with 240 cm girth.
- 69 **Lysice (Blansko)** – [49°27'14N, 16°31'55E] behind the castle on a slope at the forest a triple-stem tree 19 m tall with 212, 239 and 234 cm girth.
- 70 **Maleč (Havlíčkův Brod)** – [49°46'14N, 15°40'48E; 415 m alt.] in the castle park a tree 9 m tall with 86 cm girth.
- 71 **Mariánské Lázně (Cheb)** – [49°58'51N, 12°41'57E; 469 m alt.] in a park in Kladská street a tree with five stems 17 m tall with 98, 78, 117, 87 and 144 cm girth.
- 72 **Medlešice (Chrudim)** – [49°58'43N, 15°46'03E; 246 m alt.] in the castle park, at present the area of the Nursery School, a tree 19 m tall with 140 cm girth overgrown by *Hedera helix* L.
- 73 **Melč (Opava)** – [49°50'46N, 17°45'51E; 49°50'50N, 17°45'50E; 482 m alt.] trees in the castle park, at present the area of the Home of Children, a triple-stem tree 11 m tall and a forked tree 20 m tall with 85, 110, 115 cm and 180 and 190 cm girth, respectively.
- 74 **Mněnín (Brno-province)** – [49°04'10N, 16°41'34E; 191 m alt.] in the Židlochovice Forest Enterprise, at a gamekeeper's lodge a tree 7.5 m tall with 173 cm girth.
- 75 **Modřice (Brno-province)** – [49°07'55N, 16°36'25E; 173 m alt.] in a private garden in Nádražní street 531 two 5-m trees.
- 76 **Moravec (Ždár nad Sázavou)** – [49°26'19N, 16°08'28E; 569 m alt.] in the castle park two trees 11 and 17 m tall with 103 and 180 cm girth.

- 77 **Mosty u Jablunkova (Frýdek-Místek)** – [49°30'29N, 18°44'58E; 600 m alt.] at a gamekeeper's lodge two trees 21 and 16 m tall with 273 and 139 cm girth, abundantly fruitful, fruits propagated to neighbouring stands; [49°31'46N, 18°44'36E] in a private garden of the house No. 651 a tree 11 m tall with 96 cm girth.
- 78 **Mutěnice (Hodonín)** – [48°52'52N, 17°01'30E; 206 m alt.] Forest District Strážnice, stand 57 B 5 (about 60 trees of a mean height of 20 m and girth to 93 cm); [48°52'49N, 17°01'57E] stand 61 A 5 (about 30 trees of a mean height of 17 m and girth to 80 cm).
- 79 **Náchod (Náchod)** – [50°25'09N, 16°09'42E; 394 m alt.] in the castle park near a yard for bears a tree 10 m tall with 150 cm girth.
- 80 **Nasavrky (Chrudim)** – [49°50'47N, 15°48'09E; 498 m alt.] a chestnut stand with about 130 trees.
- 81 **Návsí u Jablunkova (Frýdek-Místek)** – [49°35'15N, 18°45'30E; 385 m alt.] in front of the Elementary School a tree 6 m tall.
- 82 **Nedachlebice (Uherské Hradiště)** – [49°04'32N, 17°36'07E; 310 m alt.] stand 212 E 4, Forest Range Šarovy, Forest District Luhačovice, the chestnut species shows 5% participation in the 1.81 ha stand.
- 83 **Nejdek (Karlovy Vary)** – [50°19'49N, 12°44'10E, 678 m alt.] on a slope at the Krásná Vyhlička Hotel three trees 16 m tall and two 17 m tall trees with 128, 384 and 250 cm girth, respectively.
- 84 **Neplachovice (Opava)** – [49°59'39N, 17°48'12E; 296 m alt.] in the castle park, at present the area of the Municipal Office a tree 20 m tall with 200 cm girth.
- 85 **Nové Město nad Metují (Náchod)** – [50°20'42N, 16°08'57E; 375 m alt.] in the castle park a shrubby tree 6 m tall.
- 86 **Nový Dvůr (Opava)** – [49°55'59N, 17°46'15E; 378 m alt.] in an arboretum a group of about 45 trees of a mean height of 15 m and 10–120 cm girth, two trees 19 and 14 m tall with 270 and 170 cm girth, respectively.
- 87 **Opava (Opava)** – [49°56'10N, 17°53'39E; 348 m alt.] in a park at the corner of Na Rybníčku street and Husova street three trees 11 m tall with 144 and 230 cm girth and a four-stem tree with 82, 79, 130 and 55 cm girth.
- 88 **Ostrava-Poruba (Ostrava)** – [49°50'40N, 18°09'01E; 287 m alt.] in a park in front of a house in Otakara Jeremiáše street 49 a shrubby tree 7 m tall.
- 89 **Osvětimany (Uherské Hradiště)** – [49°04'18N, 17°14'04E; 362 m alt.] mature about 100-year-old trees (more than 100 trees) in a stand and in an alley along a pilgrimage road.
- 90 **Otín (Klatovy)** – [49°26'54N, 13°20'10E; 398 m alt.] in the private castle park a tree 11 m tall with 118 cm girth.
- 91 **Pardubice (Pardubice)** – [50°02'09N, 15°47'05E; 198 m alt.] in the Bubeník orchards a tree 11 m tall with 101 cm girth.
- 92 **Pivoň (Domažlice)** – [49°29'15N, 12°44'17E; 613 m alt.] a tree near a monastery 23 m tall with two stems of 182 and 291 cm girth.
- 93 **Potštejn (Rychnov nad Kněžnou)** – [50°05'05N, 16°18'29E; 376 m alt.] in the poorly maintained garden park two trees 15 and 13 m tall with 300 cm girth and a three-stem tree of 50, 60 and 95 cm girth.
- 94 **Proseč (Chrudim)** – [49°49'35N, 15°41'04E; 569 m alt.] at the so-called Burián Forest two trees with seven and ten stems with 93–149 cm and 55–129 cm girth and 14 m tall; [49°49'34N, 15°40'37E] near a gamekeeper's lodge No. 38 three trees 12, 16 and 14 m tall with 395, 377 and 290 cm girth, respectively; [49°49'23N, 15°41'02E] at the house No. 7 a tree with five stems of 44, 83, 107, 51 and 120 cm girth, 14 m tall.
- 95 **Radíkov (Olomouc)** – [49°38'04N, 17°21'47E; 388 m alt.] a tree in the garden at a cottage 6 m tall.
- 96 **Radkov - Dubová (Opava)** – [49°48'56N, 17°46'23E; 539 m alt.] in the castle park at present the area of the Remedial School and the Hostel of the Remedial School, a four-stem tree occurs 18 m tall with 120, 140, 110 and 110 cm girth.
- 97 **Radkov (Opava)** – [49°49'25N, 17°46'12E; 498 m alt.] in a private garden at the house No. 56 a tree 10 m tall; [49°49'36N, 17°46'08E] in a private garden at the house No. 24 two trees 11 and 14 m tall with 100 cm girth.
- 98 **Rájec nad Svitavou (Blansko)** – [49°24'44N, 16°38'52E, 415 m alt.] in the garden park in its back part two trees 15 and 17 m tall with 111 and 149 cm girth and in the part below the castle at the lower gate three trees 10, 10 and 9 m tall with 69, 135 and 110 cm girth.
- 99 **Rohozná (Chrudim)** – [49°48'29N, 15°48'57E; 593 m alt.] near the house No. 19 a tree 8.5 m tall with 192 cm girth; [49°48'24N, 15°48'49E] at the house No. 43 a tree 10 m tall with 148 cm girth; [49°48'16N, 15°48'50E] at a pond a tree 7 m tall with 129 cm girth.
- 100 **Řídeč (Olomouc)** – [49°46'27N, 17°15'22E; 336 m alt.] three trees about 200 m behind the building of Forests of the Czech Republic near beehives 11, 4 and 18 m tall with 184 and 17 cm girth and a forked tree with 134 and 38 cm girth.
- 101 **Skalice (Znojmo)** – [48°57'55N, 16°13'21E; 220 m alt.] in the garden park of the House of Pensioners a tree 15 m tall with 131 cm girth.
- 102 **Slatiňany (Chrudim)** – [49°54'55N, 15°48'25E; 340 m alt.] an alley along a road behind the castle park towards a stud farm, 25 trees of an average height of 9 m and 50–110 cm girth; [49°54'30N, 15°48'05E] in a stand above Monace trees 20 and 21 m tall with even 148 cm girth; [49°54'45N, 15°48'13E] a stand below Hůrka Hill; [49°54'37N, 15°48'16E] stands near Kočího Hrádek, mean height 27 m and even 257 cm girth, the trees abundantly yield and regenerate.

- 103 **Sloupno (Havlíčkův Brod)** – [49°44'10N, 15°45'22E; 493 m alt.] a tree in front of the house No. 14 some 11.5 m tall with 92 cm girth.
- 104 **Smilovice (Frýdek-Místek)** – [49°39'38N, 18°33'47E; 378 m alt.] in a private garden of the house No. 100 a three-stem tree 7 m tall with 63, 49 and 56 cm girth.
- 105 **Spálov (Nový Jičín)** – [49°42'18N, 17°43'21E; 559 m alt.] in the area of the Elementary School and the Basic Artistic School four trees 17, 15, 10 and 10 m tall with 135, 104, 155 and 123 cm girth, respectively.
- 106 **Staré Hutě (Uherské Hradiště)** – [49°07'47N, 17°16'07E; 219 m alt.] trees behind a gamekeeper's lodge, one young 2.5 m tall and the second 22 m tall with 232 cm girth.
- 107 **Svatý Kopeček (Olomouc)** – [49°37'45N, 17°20'22E; 395 m alt.] yard Sadové náměstí 29, a young tree 2 m tall; in a park four trees 2–11 m tall with even 73 cm girth; [49°37'54N, 17°20'53E] near Šmeral's villa a tree 13 m tall with 190 cm girth.
- 108 **Šenov (Frýdek-Místek)** – [49°47'11N, 18°22'35E; 277 m alt.] two trees at the Elementary School, Hasičská street, 12 m tall with 115 cm girth and a forked tree with 133 and 132 cm girth.
- 109 **Štáblovice (Opava)** – [49°52'36N, 17°49'01E; 342 m alt.] in a private garden of the house No. 157 a tree 6 m tall with 72 cm girth.
- 110 **Štěmplevec (Opava)** – [49°58'47N, 17°47'24E; 300 m alt.] a young tree in a small park opposite the house No. 9; [49°58'52N, 17°47'21E] five trees in the castle park of nuns 17–22 m tall with even 360 cm girth.
- 111 **Štěpánov (Havlíčkův Brod)** – [49°44'08N, 15°44'26E; 456 m alt.] in the castle park opposite the Secondary Apprentice Centre training institution a tree 21 m tall with 473 cm girth.
- 112 **Tábor (Tábor)** – [49°24'49N, 14°40'07E; 434 m alt.] in a botanical garden a tree 18 m tall with two stems of 109 and 49 cm girth.
- 113 **Těchov (Blansko)** – [49°21'59N, 16°41'54E; 498 m alt.] a group of 26 trees in stand 830 C 6 in the Vývěry Punkvy National Nature Reserve with an average height of 17 m and 60–103 cm girth.
- 114 **Telč (Jihlava)** – [49°11'10N, 15°26'55E; 547 m alt.] at glasshouses in the castle garden a shrubby tree 9 m tall.
- 115 **Troubelice (Olomouc)** – [49°49'50N, 17°05'08E; 319 m alt.] two trees in a stand on Hůrka hill near a feed rack 12 and 4 m tall with even 26 cm girth.
- 116 **Trpísty (Tachov)** – [49°49'28N, 13°03'41E; 394 m alt.] in the rear part of the poorly maintained castle park a forked tree 16 m tall with 146 and 66 cm girth.
- 117 **Třinec (Frýdek-Místek)** – [49°39'47N, 18°40'21E; 521 m alt.] a young tree in the Frýdecká street opposite the Business College, 3 m tall.
- 118 **Týn nad Vltavou (České Budějovice)** – [49°13'18N, 14°25'19E; 360 m alt.] four trees along a road (České Budějovice–Tábor) 8 m tall with even 59 cm girth.
- 119 **Uherský Brod (Uherské Hradiště)** – [49°01'33N, 17°39'11E; 261 m alt.] a tree in a private garden in Za Humny street No. 1655 some 5 m tall with 95 cm girth (at the ground), the find of *Cryphonectria parasitica*.
- 120 **Uhlířov (Opava)** – [49°53'17N, 17°50'55E; 466 m alt.] two trees in a private game refuge; (Podhoří) between Uhlířov and Štáblovice 11 m tall with 105 and 115 cm girth.
- 121 **Újezd nade Mží (Plzeň-north)** – [49°47'14N, 13°11'42E; 397 m alt.] in the poorly maintained castle park near a playground a tree 8 m tall with 76 cm girth.
- 122 **Valšovice (Přerov)** – [49°31'10N, 17°42'14E; 383 m alt.] 10 trees in a stand behind the building of a technical school; [49°31'05N, 17°42'26E] at Lešovna even 27 m tall with 97–194 cm girth.
- 123 **Velešín (Český Krumlov)** – [48°49'45N, 14°27'29E; 558 m alt.] two trees at the Elementary School forked tree 10 m tall with 102 and 100 cm girth and one four-stem 5 m tall.
- 124 **Velké Bílovice (Břeclav)** – [48°50'59N, 16°53'50E; 169 m alt.] a tree in a yard at the house No. 996, Čejkovská street, 8 m tall with 80 cm girth.
- 125 **Velké Losiny (Šumperk)** – [50°01'58N, 17°02'04E; 394 m alt.] in a spa park four trees at the edge of the park 6–12 m tall, two of them are shrubby; [50°02'18N, 17°03'07E] in the area of the Semptra Breeding Station two trees 7.5 and 11 m tall with 38 and 232 cm girth; [50°02'24N, 17°03'11E] in the area of a cemetery two trees 12 m tall with 100 cm girth and a forked tree 8 m tall with 50 and 44 cm girth.
- 126 **Veselíčko (Přerov)** – [49°31'54N, 17°30'22E, 49°31'48N, 17°30'20E] in the castle park, at present the Children's Educational Institute two trees 26 and 15 m tall with four and five stems and the greatest girth 239 cm and 301 cm.
- 127 **Vizovice (Zlín)** – [49°13'12N, 17°50'53E; 287 m alt.] in the castle park a tree 12 m tall with 180 cm girth.
- 128 **Vlkaneč (Kutná Hora)** – [49°48'20N, 15°24'10E; 434 m alt.] 2 yielding trees in the village square, age about 20–30 years, height 8 and 10 m, 75 cm girth and a three-stem tree with 59, 55 and 51 cm girth.
- 129 **Vrdy-Dolní Bučice (Kutná Hora)** – [49°55'31N, 15°27'55E; 221 m alt.] at a bus station a forked tree 9 m tall with 75 and 50 cm girth.
- 130 **Vysoká u Příbrami (Příbram)** – [49°38'08N, 13°56'29E; 592 m alt.] in a park near the monument of Dvořák a tree at a pool 11 m tall with 98 cm girth.
- 131 **Vysoké Chvojno (Pardubice)** – [50°06'31N, 15°58'18E; 308 m alt.] a young tree in front of the house No. 29 and in the garden of the same house several young trees max. 4 m tall; three trees 15, 15 and 17 m tall with 105 and 105 cm (forked tree), 110 and 115 cm girth; in a park a three-stem tree with 160, 181 and 59 cm girth.
- 132 **Vyškov na Moravě (Vyškov)** – [49°16'07N, 16°59'07E; 267 m alt.] in the area of horticulture of the Secondary Agricultural School trees 10 m tall

- with 109 and 180 cm girth (forked-tree) and 110, 85 and 117 cm girth (three-stem tree).
- 133 **Zábřeh (Šumperk)** – [49°53'08N, 16°52'30E; 288 m alt.] at a state road towards Rovensko two trees 10 and 18 m tall with 146 and 394 cm girth.
 - 134 **Zastrání (Havlíčkův Brod)** – [49°43'51N, 15°38'48E; 500 m alt.] a forked tree 12.5 m tall with 155 and 152 cm girth situated on a meadow.
 - 135 **Zběšice (Písek)** – [49°21'37N, 14°24'59E; 456 m alt.] two trees in the village square 9 and 8 m tall with 89 and 64 cm girth.
 - 136 **Zběšičky (Písek)** – [49°23'31N, 14°25'27E] near a castle, at present the Institute of Socially Handicapped, three trees 7–8 m tall with 46, 79 and 73 cm girth.
 - 137 **Zubří (Chrudim)** – [49°46'44N, 15°48'03E; 627 m alt.] on a meadow at the house No. 14 five trees 7–10 m tall with 40–109 cm girth; [49°46'40N, 15°48'08E] in a private garden four trees 10–11.5 m tall with 70–167 cm girth.
 - 138 **Žernůvka (Brno-province)** – [49°20'29N, 16°23'01E; 489 m alt.] a tree near a hunting hut at a meadow in the forest 8 m tall with 59 cm girth.
 - 139 **Židlochovice (Brno-province)** – [49°02'22N, 16°42'12E; 194 m alt.] Forest Enterprise Židlochovice, Forest District Židlochovice, Forest Range Rumunská bažantnice, stand 112 D 3 – young trees; [49°02'01N, 16°42'08E] at a gamekeeper's lodge two trees 11 and 14 m tall with 145 cm girth and a forked tree with 147 and 154 cm girth.
 - 140 **Živanice (Pardubice)** – [50°03'43N, 15°38'57E; 206 m alt.] a tree in front of the house No. 91 some 10 m tall with 125 cm girth.

List of localities where the occurrence of sweet chestnut has not been confirmed

- 1 Bouzov (Olomouc) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 2 Brandlín (Tábor) – mentioned by HIEKE (1984); the tree was felled
- 3 Budišov (Třebíč) – mentioned by HIEKE (1985); occurrence has not been confirmed
- 4 Dolní Bečkovice (Mělník) – mentioned by HIEKE (1984); the tree in the castle garden was felled
- 5 Domažlice (Domažlice) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 6 Habrovany (Vyškov) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 7 Chudenice (Klatovy) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 8 Laškov (Prostějov) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 9 Libějovice (Prachatice) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 10 Mikulov (Břeclav) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 11 Mlýnce (Louny) – mentioned by HIEKE (1984); occurrence has not been confirmed

- 12 Němčice (Pardubice) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 13 Nové Hvězdlice (Vyškov) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 14 Ratboř (Kolín) – mentioned by HIEKE (1984); occurrence has not been confirmed
- 15 Sobotín (Šumperk) – mentioned by HIEKE (1985); occurrence has not been confirmed
- 16 Štířín (Prague-východ) – mentioned by HIEKE (1984); occurrence has not been confirmed
- 17 Třebíč (Jihlava) – mentioned by SVOBODA (1978); occurrence has not been confirmed
- 18 Velichov (Karlovy Vary) – mentioned by HIEKE (1984); the tree in the castle park was felled
- 19 Velké Dvorce (Tachov) – mentioned by HIEKE (1984); occurrence has not been confirmed
- 20 Višňové (Znojmo) – mentioned by HIEKE (1985) trees in the castle park were felled
- 21 Žinkovy (Plzeň) – mentioned by HIEKE (1984); occurrence has not been confirmed

List of recorded but not verified localities yet

- 1 Bílá Voda (Jeseník) – 2 trees in the Forest District Javorník (Regional Inspectorate of Forests of the Czech Republic, Šumperk)
- 2 Bílé Podolí (Kutná Hora) – Žehušicko – two trees in a forest (SVOBODA 1978)
- 3 Bílina (Teplice) – on a slope below a café a young tree (SVOBODA 1978)
- 4 Boletice nad Labem (Děčín) – 1 tree in the area of a sewage treatment plant (Agency for Nature Conservation and Landscape Protection Ústí nad Labem)
- 5 Božanov (Náchod) – about 10 trees (CHKO Broumovsko)
- 6 Březina (Plzeň) – several trees (SVOBODA 1978)
- 7 Březiny (Děčín) – one tree in the area of the Secondary Agricultural and Horticultural School (Agency for Nature Conservation and Landscape Protection Ústí nad Labem)
- 8 Březno (Litoměřice) – individual trees (SVOBODA 1978)
- 9 Buková (Příbram) – one yielding tree in a park (HIEKE 1984)
- 10 Červené Poříčí (Klatovy) – one tree in a poor health condition (SVOBODA 1978)
- 11 Červený Hrádek (Chomutov) – in the castle park two trees and at the margin of an extensive natural park 18 trees (HIEKE 1984)
- 12 Česká Třebová (Ústí nad Orlicí) – (oral communication)
- 13 České Lhotice (Chrudim) – (oral communication)
- 14 Dětenice (Jičín) – one flowering tree (SVOBODA 1978)
- 15 Dlouhý Vrch (Litoměřice) – a number of trees in the Skalice cadastral territory (Protected Landscape Area Litoměřice)
- 16 Doubravčice (Kolín) – (SVOBODA 1978)

- 17 Dubeč (Prague-east) – (SVOBODA 1978)
- 18 Frýdlant v Čechách (Liberec) – in a park (HIEKE 1984)
- 19 Holovousy u Hořic (Jičín) – one tree in a park (HIEKE 1984)
- 20 Hořín (Mělník) – a young tree in a park (HIEKE 1984)
- 21 Hostivice (Pardubice) – a yielding tree (SVOBODA 1978)
- 22 Hradec Králové (Hradec Králové) – young trees in Jiráskovy sady orchards (SVOBODA 1978); Na záměčku (oral communication); near an observatory (oral communication)
- 23 Hradec nad Moravicí (Opava) – two trees in Říjnový kopec hill (Forest District Opava, Forest Range Štáblovice)
- 24 Hradiště (Chrudim) – (oral communication)
- 25 Hrubý Rohozec (Semily) – one tree in a park (HIEKE 1984)
- 26 Hřensko (Děčín) – below the Prebyšovská brána on the right bank of the Elbe river in the middle part of a slope (SVOBODA 1978)
- 27 Humpolec (Pelhřimov) – one yielding tree (SVOBODA 1978)
- 28 Chlum u Pavlíkova (Rakovník) – one tree (Forests of the Czech Republic, Křivoklát)
- 29 Choceň (Ústí nad Orlicí) – one tree (SVOBODA 1978)
- 30 Chomutov (Chomutov) – intensive chestnut stand at Kamencové jezero lake (SVOBODA 1978); three trees in the area of a shooting-range (Agency for Nature Conservation and Landscape Protection Ústí nad Labem)
- 31 Chrastava (Liberec) – one shrub (SVOBODA 1978)
- 32 Chvaletice (Pardubice) – (SVOBODA 1978)
- 33 Jabkenice (Mladá Boleslav) – in near forests – Chudíř, Mcely (SVOBODA 1978)
- 34 Jablonné v Podještědí (Česká Lípa) – in a park (HIEKE 1984)
- 35 Janov (Svitavy) – oral communication
- 36 Janovická obora (Chrudim) – (oral communication)
- 37 Jaroměř (Náchod) – one tree in a park at the Na ostrově school (oral communication, Forest District Proruby)
- 38 Jasenný (Semily) – (SVOBODA 1978)
- 39 Javorné (Chrudim) – (oral communication)
- 40 Jezeří (Most) – in a park in front of the building of head office etc. (HIEKE 1984)
- 41 Jičín (Jičín) – in a park (HIEKE 1984)
- 42 Jirkov (Chomutov) – several trees (SVOBODA 1978)
- 43 Kadaň (Chomutov) – one small infertile shrub (SVOBODA 1978)
- 44 Kladno (Kladno) – a young tree in a garden in Klei-nova street in front of the grammar school (SVOBODA 1978)
- 45 Klášterec nad Ohří (Chomutov) – several fruitful trees in forest
- 46 Kochanovice (Chrudim) – see Slatiňansko (SVOBODA 1978)
- 47 Kolín (Kolín) – Masarykova street (oral communication)
- 48 Kopisty (Litoměřice) – a nursery and the central collection of seed from the whole region – see Lovosicko (SVOBODA 1978)
- 49 Kopřivnice (Nový Jičín) – (oral communication)
- 50 Kostelec nad Černými lesy (Kolín) – in front of a castle and in the Peklov arboretum (SVOBODA 1978); in a forest stand 7G4 (Forest Management Institute, Brandýs nad Labem)
- 51 Kozel u Štáhlav (Plzeň) – (SVOBODA 1978)
- 52 Krásné (Chrudim) – (oral communication)
- 53 Krnsko (Mladá Boleslav) – forest stand behind childrens' home (oral communication)
- 54 Krušovice (Rakovník) – at the cemetery wall three trees (SVOBODA 1978)
- 55 Křivosoudov (Benešov) – (SVOBODA 1978)
- 56 Kunratice (Prague-city) – in the castle garden and in a private garden of the house No. 272 (SVOBODA 1978)
- 57 Kutná Hora (Kutná Hora) – two fruitful shrubs in front of a school in Kamenná stezka in the suburb of Hlouška. Sedlec in a forest called Háj one tree, then above the Sedlecká cihelna brickworks, on Sukov Hill and in the field track at Trojice na Rovinách (SVOBODA 1978)
- 58 Lázně Bělohrad (Jičín) – in the town park (HIEKE 1984)
- 59 Leontýn castle, Křivoklátsko (Rakovník) – one tree (SVOBODA 1978)
- 60 Levín (Litoměřice) – in a garden of Dr. Soldán (SVOBODA 1978)
- 61 Lhenice u Netolic (Prachatic) – (SVOBODA 1978)
- 62 Liběchov (Mělník) – one tree (HIEKE 1984)
- 63 Liberk (Rychnov nad Kněžnou) – one tree (SVOBODA 1978)
- 64 Licibořice (Chrudim) – Slatiňansko (SVOBODA 1978)
- 65 Litošice (Pardubice) – Žehušicko – Forest District with the abundant occurrence of seedlings (SVOBODA 1978)
- 66 Litvínov (Most) – a robust tree in a park (SVOBODA 1978)
- 67 Loučeň (Nymburk) – in the castle park more trees and in the neighbouring stands a lot of seedlings originating through self-regeneration (HIEKE 1984)
- 68 Louňovice (Prague-east) – in a private garden of the house 47 (SVOBODA 1978)
- 69 Lovosice (Litoměřice) – in 11 forest stands (Forest Management Institute, Brandýs nad Labem)
- 70 Lovoš (Litoměřice) – Lovosicko – on the way to the peak before a saddle at the edge of a forest several trees in the protected nature reserve of pubescent oak communities (SVOBODA 1978)
- 71 Lukavec (Pelhřimov) – one robust tree (SVOBODA 1978)
- 72 Mačice (Klatovy) – (SVOBODA 1978)
- 73 Malý Rohozec (Semily) – trees bearing large fruits (SVOBODA 1978)

- 74 Mašov (Semily) – (SVOBODA 1978)
- 75 Milešov (Litoměřice) – Lovosicko – three trees in the castle park (HIEKE 1984); at the foot of Ostrý Hill in the track called Stráž, cadastral territory Březno
- 76 Mladé Žernoseky (Lovoš) – about 50 trees (Protected Landscape Area Litoměřice)
- 77 Modletice (Prague-east) – in a private garden (agricultural co-operative) two trees (SVOBODA 1978)
- 78 Molitorov (Kolín) – one tree in a park near the horticultural school (HIEKE 1984)
- 79 Morašice (Kolín) – (SVOBODA 1978)
- 80 Moravský Písek (Hodonín) – in a forest nursery (oral communication of Mr. Čejka, Forest District Strážnice)
- 81 Most (Most) – Na Röselově vrchu hill – below on the southern slope (SVOBODA 1978)
- 82 Mšeno (Mělník) – 20–30 trees in the forest stand 10 E (Protected Landscape Area Kokořínsko)
- 83 Nebužely (Mělník) – 2 trees (Protected Landscape Area Kokořínsko)
- 84 Nižbor (Beroun) – Obora za Nižborem one tree (SVOBODA 1978)
- 85 Nová Viska (Děčín) – one tree in the garden of Mr. K. Novák, No. 20 (SVOBODA 1978)
- 86 Nové Hradky (České Budějovice) – in a park (HIEKE 1984)
- 87 Opárno (Litoměřice) – Lovosicko – Opárno valley about 200 trees in the vicinity of a railway station (former farm Bílý Újezd) (SVOBODA 1978)
- 88 Opatovice (Kolín) – (SVOBODA 1978)
- 89 Opočno (Rychnov nad Kněžnou) – one tree (SVOBODA 1978)
- 90 Osek (Teplice) – in the monastery garden (SVOBODA 1978)
- 91 Osov (Beroun) – in a park (HIEKE 1984)
- 92 Pelešany (Semily) – a group of 34 trees (SVOBODA 1978)
- 93 Ploskovice (Litoměřice) – one tree in the castle park (HIEKE 1984)
- 94 Plzeň (Plzeň) – in the Botanical Garden (SVOBODA 1978)
- 95 Pohodělice (Břeclav) – two trees (SVOBODA 1978)
- 96 Polánka (Chrudim) – (oral communication)
- 97 Porostliny-Čachnov (Chrudim) – (oral communication)
- 98 Prague – more places (SVOBODA 1978)
- 99 Pravčická brána (Děčín) – more trees (SVOBODA 1978)
- 100 Proruby (Náchod) – near a gamekeeper's lodge 5 trees; u Viků 2 trees (urban forests Jaroměř, Forest District Proruby)
- 101 Průhonice (Prague-south) – in a park near a former dendrological school U zlatého bažanta, na Štípence (SVOBODA 1978)
- 102 Prunéřov (Chomutov) – in the plot No. 1408/1 a group of trees on a slope behind the village towards Hasištejn (SVOBODA 1978)
- 103 Příbram (Příbram) – in the area of a hospital (oral communication)
- 104 Radešín (Žďár nad Sázavou) – one tree (SVOBODA 1978)
- 105 Radim (Kolín) – one tree (SVOBODA 1978)
- 106 Ralsko (Česká Lípa) – in the south part of top (oral communication)
- 107 Ronov nad Doubravou (Chrudim) – in ten stands (Forest Management Institute, Brandýs nad Labem)
- 108 Rovensko (Šumperk) – stand margin 305 A (Regional Inspectorate of Forests of the Czech Republic, Šumperk)
- 109 Roztěž (Kutná Hora) – one tree (SVOBODA 1978)
- 110 Rtenín (Chrudim) – one tree (SVOBODA 1978)
- 111 Rumburk (Děčín) – one tree (Protected Landscape Area Děčín)
- 112 Říčany (Prague-east) – in ornamental gardens of F. Thomayer, in a private garden in Reisova street 1781
- 113 Seč (Chrudim) – a fruitful tree, alley (SVOBODA 1978); u Veselky (oral communication)
- 114 Slavice (Chrudim) – in the Forest District U černé brány (SVOBODA 1978); in a game preserve (oral communication)
- 115 Sobotka (Jičín) – one tree (SVOBODA 1978)
- 116 Stránčice (Prague-east) – a fruitful tree in a private garden (SVOBODA 1978)
- 117 Sudice (Blansko) – the castle park
- 118 Sychrov (Jablonec nad Nisou) – in the castle gardening and in the castle park (HIEKE 1984)
- 119 Šluknov (Děčín) – (SVOBODA 1978)
- 120 Teplice-Doubravka (Teplice) – several trees near a castle (SVOBODA 1978)
- 121 Teplice (Teplice) – in the castle garden on a dam (HIEKE 1984)
- 122 Třebotov (Prague-south) – two trees (SVOBODA 1978)
- 123 Tupadly (Klatovy) – in a private garden of the house No. 22 a young tree (oral communication)
- 124 Turnov (Semily) – at the edge of Rývovy sady orchards one tree (SVOBODA 1978); in a park (oral communication)
- 125 Uhlířské Janovice (Kutná Hora) – one shrub (SVOBODA 1978)
- 126 Úhrov (Havlíčkův Brod) – one tree in a park (HIEKE 1984)
- 127 Valdice (Jičín) – a robust tree in Libosad (SVOBODA 1978)
- 128 Valdštejn (Semily) – at the edge of an orchard (SVOBODA 1978)
- 129 Vadralka (Chrudim) – Žehušicko – near a former gamekeeper's lodge and in its vicinity abundant seedlings (SVOBODA 1978)
- 130 Velemin (Litoměřice) – Březno – about 300 trees (Protected Landscape Area Litoměřice)
- 131 Veliz (Beroun) – (SVOBODA 1978)
- 132 Velká Buková (Rakovník) – (Forests of the Czech Republic, Křivoklát)

- 133 Velké Březno (Ústí nad Labem) – one tree in a park (HIEKE 1984)
- 134 Veltrusy (Mělník) – one tree in a park (HIEKE 1984)
- 135 Vestec (Chrudim) – along a yellow tourist sign (oral communication)
- 136 Věž (Havlíčkův Brod) – one tree (SVOBODA 1978)
- 137 Věžky (Kroměříž) – (oral communication)
- 138 Vinička (Litoměřice) – Lovosicko – a chestnut stand (SVOBODA 1978)
- 139 Visky (Rokycany) – in a park (HIEKE 1984)
- 140 Vráž u Čížové (Písek) – in a private garden (SVOBODA 1978)
- 141 Vrchlabí (Trutnov) – one tree (HIEKE 1984)
- 142 Vrchotovy Janovice (Benešov) – a group of trees (HIEKE 1984)
- 143 Vyklantice (Pelhřimov) – in the castle park (HIEKE 1984)
- 144 Vysoké Jamné (Tachov) – direction Konstantinovy Lázně
- 145 Vysoké Mýto (Ústí nad Orlicí) – (oral communication)
- 146 Zbraslav-Havlín (Prague-city) – several shrubs at the Research Institute of Forestry and Game Management (SVOBODA 1978)
- 147 Zdechovice (Pardubice) – one tree in a park (HIEKE 1984)
- 148 Zvíkovec (Rokycany) – in a park (HIEKE 1984)
- 149 Žleby (Kutná Hora) – in a park (HIEKE 1984)

Notes to the health condition

As compared with other species the health condition of chestnut can be evaluated as good. At some localities crowns drying was found. The damage is also significantly manifested in the largest chestnut stand in Nasavrky. The main cause is probably the effect of abiotic factors associated with the activation of some fungal pathogenes such as *Phytophthora cambivora* (Petri) Buism.

Within the research, the chestnut blight *Cryphonectria parasitica* (Murr.) Barr. was determined for the first time in the Czech Republic (Uherský Brod; 49°01'33N, 17°39'11E).

As for wood-destroying fungi, the following species occur abundantly on dead twigs: *Stereum hirsutum* (Wild.: Fr.) SF Gray, *S. gausapatum* (Fr.) Fr., *S. rugosum* (Pers.: Fr.) Fr., *Coryne sarcoides* (Jacq.) T & C. T (perf. st. *Asco-coryne sarcoides* (Jacq.) Groves et Wilson.), *Peniophora quercina* (Pers.: Fr.) Cooke, *Corticium evolvens* (Fr.) Fr., *Schizopora radula* (Pers.: Fr.) Hallenb., *S. flavipora* (Cooke) Ryvarden, *Bjerkandera adusta* (Willd.) P. Karst., *Lopharia spadicea* (Pers.) Boidin, *Phlebia rufa* (Pers.) Christ, *P. merismoides* Fr., *Vuilleminia comedens* (Nees: Fr.) Maire etc. On chestnut stems also *Phellinus robustus* P. Karst., *P. ferruginosus* (Schrader: Fr.) Patouillard, *Fistulina hepatica* Schaeff.: Fr. May, *Laetiporus sulphureus* (Bull.: Fr.) Murr. Wood-destroying fungi *Ustulina deusta* (Hoffm.) Lind, *Armillaria gallica* Marxmüller and Ro-

magnesi and *A. ostoyae* (Romagnesi) Herink were also found on roots. The appearance of *Nectria* sp. on bark was also a frequent event. This occurrence is accompanied by the development of bark cancer similarly as bark cancer in chestnut. The spectrum of wood-destroying but also mycorrhizal fungi on chestnut is similar as a spectrum on oak.

One of serious phytosanitary risks is attack of a root system by ink disease the originator of which is *Phytophthora cambivora* (Petri) Buism or *Phytophthora cinnamomi* Rands. The infection is accompanied again by drying out and gradual dying of affected chestnut trees. Climatic extremes appear to be a predisposition factor. Thus, it is very problematic to distinguish causes and consequences of the chestnut decline. Leaf spots the originator of which is *Mycosphaerella maculiformis* (Pers.) Schroet are usual. The occurrence of oak mildew *Microsphaera alphitoides* Griff. et Maubl. is a frequent phenomenon.

As for semiparasitic plants, *Loranthus europaeus* L. was found on chestnut. The semiparasite is generally distributed in the Pannonian region, the Balkans and the Apennine peninsula in oaks. With respect to the affinity of chestnut and oak the occurrence of *Loranthus europaeus* L. in chestnut is not surprising and it was already noted (JUHÁSOVÁ 1999).

DISCUSSION AND CONCLUSIONS

Sweet chestnut can be considered to be a domesticated species in the Czech Republic. At present, it is above all a species of parks and ornamental plantings. The oldest trees are more than 350 years old. Particularly literature data (SVOBODA 1978; HIEKE 1984, 1985) show that a number of trees is overmature or died within the period from publication.

In the region of the Czech Republic, chestnut is part of forest stands as a stand-forming species in a number of places. It is possible to mention the following localities: Kozí Hory (Forest District Dobříš), Osvětimany (Forest Cooperative Osvětimany), Nedachlebice and Částkov (Forest District Luhačovice) etc. In the last years, it is possible to note a number of new plantings of sweet chestnut both in urban plantings and in forest stands where chestnut is used as a fruit-bearing species. The northernmost locality recorded so far is Choustníkovo Hradiště in the Hradec Region (50°26'10N, 15°52'21E). Chestnut trees occur generally to an altitude of 500 m. At higher altitudes, they suffer from climatic extremes, viz. particularly late frosts. The topmost locality of chestnut is Nejdek in Karlovy Vary District where chestnut trees thrive at an altitude of 678 m. In addition to a chestnut stand in Nasavrky, trees with the greatest girth were found at localities Proseč, Zábřeh. In next years, further localities in the western part of the Czech Republic will be also revised.

Present-day distribution of chestnut in the Czech Republic is situated near a limit of the ecological optimum of the species. In spite of this, it is possible to consider chestnut to be a prospective species from the viewpoint

of a possibility to use it as a fruit-bearing species as well as a wood-producing species. Thus, chestnut could be one of species which could stabilize existing oak and beech stands under conditions of a climatic change. An important moment is a similar mycoflora of the roots of chestnut, oak and beech. In addition to the effect of climatic extremes, a risk factor of growing chestnut under conditions of Central Europe is particularly a possibility of the further spread of a quarantine disease of chestnut bark cancer *Cryphonectria parasitica* (Murr.) Barr.

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References

- BENČAĚ F., 1959. Pôvodnosť a revízia severnej hranice prirodzeného areálu gaštanu jedlého (*Castanea sativa* Mill.) od západného pobrežia Čierneho mora po juhovýchodné Alpy. Acta Dendrol. Českoslov., II: 31–70.
- BRANDE A., 1973. Investigations of the postglacial vegetation history of the Neretva Lowlands (Dalmatia). Flora GDR, 162: 1–44.
- HEINIGER U., STADLER B., 1991. Kastanienrindenkrebs auf der Alpennordseite. Schweiz. Z. Forstwes., 141: 383–388.
- HIEKE K., 1984. České zámecké parky a jejich dřeviny. Praha, SZN: 459.
- HIEKE K., 1985. Moravské zámecké parky a jejich dřeviny. Praha, SZN: 307.
- JANKOVSKÝ L., HALTOFOVÁ P., PALOVČÍKOVÁ D., 2002. Rakovina kůry kaštanovníku *Cryphonectria parasitica* (Murr.) Barr. v České republice. Lesn. Práce, 81: 12.
- JUHÁSOVÁ G., 1999. Hubové choroby gaštanu jedlého (*Castanea sativa* MILL.). Bratislava, VEDA, Vydavateľstvo SAV: 190.
- OOSTERBAAN A., 1998. Growth of chestnut (*Castanea sativa* Mill.) in the Netherlands. Forestry, 71: 267–270.
- PRIDNYA M.V., CHERPAKOV V.V., PAILLET F.L., 1996. Ecology and pathology of European chestnut (*Castanea sativa*) in the deciduous forests of the Caucasus Mountains in southern Russia. Bull. Torrey Bot. Club, 123: 213–222.
- PŘÍHODA A., 1999. Kaštanovník jedlý jako lesní dřevina i pro zvěř. Myslivost, XLVII: 14.
- SEEMANN D., BOUFFIER V., KEHR R., WULF A., SCHRODER T., UNGER J., 2001. Die Esskastanie (*Castanea sativa* Mill.) in Deutschland und ihre Gefährdung durch den Kastanienrindenkrebs (*Cryphonectria parasitica* (Murr.) Barr.). Nachr.-Bl. Dtsch. Pfl.-Schutzdienst, 53 (3): 49–60.
- SVOBODAA M., 1978. Pěstování kaštanovníku jedlého (*Castanea sativa* Mill.) v Čechách a na Moravě. Folia Dendrol., 4: 23–48.
- VILLANI F., PIGLIUCCI M., CHERUBINI M., 1994. Evolution of *Castanea sativa* Mill. in Turkey and Europe. Genet. Res., 63: 109–116.

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Rozšíření kaštanovníku jedlého *Castanea sativa* Mill. v České republice

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ABSTRAKT: Kaštanovník jedlý *Castanea sativa* Mill. je v České republice dřevinou introdukovanou. Je uváděn přibližně z necelých 300 lokalit. Do konce roku 2002 byl výskyt kaštanovníku ověřen asi na 140 makrolokalitách. Nejseverněji dosud zaznamenanou lokalitou bylo Choustníkovo Hradiště v Královéhradeckém kraji. Kaštanovníky se vyskytují vesměs do nadmořské výšky 500 m (80 % všech šetřených lokalit), ve vyšších nadmořských výškách trpí klimatickými extrémy, především pozdními mrazy. Výskyt kaštanovníku byl zaznamenán na 27 lokalitách (20 % šetřených lokalit), kde nadmořská výška přesahuje 500 m n. m. Nejvýše položeným nalezištěm kaštanovníku je lokalita Nejdek v okrese Karlovy Vary, kde kaštanovníky prosperují v nadmořské výšce 678 m. V polohách nad 600 m byly zaznamenány i další dvě lokality. Zdravotní stav kaštanovníku je relativně dobrý, na některých lokalitách je zřejmé prosychání koruny jako důsledek ne zcela ideálních klimatických podmínek. V rámci průzkumu byla na jediné z šetřených lokalit poprvé v České republice zjištěna karanténní *Cryphonectria parasitica* (Murr.) Barr.

Klíčová slova: *Castanea sativa*; kaštanovník; rozšíření; Česká republika; *Cryphonectria parasitica*; ekologie

Původní areál rozšíření kaštanovníku jedlého *Castanea sativa* Mill. se nachází pravděpodobně v oblasti Malé Asie a vybíhá přes Černomoří až na západní Kavkaz.

Porosty kaštanovníku jsou zde rozšířeny na jižních svazích táhnoucích se od pobřeží Černého moře. Ostřůvkovitě se vyskytuje až na severu kavkazského hře-

bene (PRIDNYA et al. 1996). Původní areál evropských populací kaštanovníku pochází z oblasti východního Turecka. Za centrum domestikace je považována oblast západního Turecka. Odtud byl kaštanovník rozšířen nejprve do oblasti Itálie, odkud byl rozšířen Římany do celého Středomoří a přes Francii do západní Evropy (VILLANI et al. 1994; OOSTERBAN 1998; SEEMANN et al. 2001) a rovněž Dalmácie (BRANDA 1973). Stejný původ je předpokládán u starobylých kaštanovníků ve Velké Británii a Irsku. V severní Africe je kaštanovník rozšířen v Alžírsku a ve středomořských pohořích Maroka. V Evropě současný areál kaštanovníku zaujímá oblast Balkánu od Turecka přes Řecko, Makedonii a Chorvatsko do oblasti Apeninského poloostrova do podhůří Alp (BENČAŤ 1959). V oblasti Francie se vyskytuje na řadě lokalit od severního Alsaska-Lotrinska přes Provence, Auvergne a Massif Central po Pyreneje na jihu. Je součástí porostů na některých mediteránních ostrovech, jako je Korsika, Sardinie, Sicílie a Baleárské ostrovy. Na Pyrenejském poloostrově jsou porosty kaštanovníku ve vlhčích oblastech Katalánska, Baskicka a především Galicie, kde pronikají až do Portugalska. Na jihu Pyrenejského poloostrova se kaštanovník vyskytuje ostrůvkovitě v mikroklimaticky vlhčích úbočích údolí pohoří Sierra Nevada, Sierra de Gradacena, Sierra de las Nieves, Sierra Morena aj.

Kaštanovník jedlý *Castanea sativa* Mill. je jako introdukovaná dřevina rozšířen v celé ČR. Nejstarší doložená zpráva o stromech v kaštánce u Kamencového jezera nedaleko Chomutova pochází od Balbína z roku 1679. V té době to byly již plodné stromy, takže lze předpokládat první výsadby v 16. století, tedy přibližně před 300 až 400 lety (SVOBODA 1978). Nejznámější současná kaštánka se nachází v Nasavrkách – sad kaštanovníku zde byl postupně vysazován od roku 1776. Nejstarší exempláře pocházejí z původní výsadby.

Z hlediska zdravotního stavu kaštanovníku je v Evropě závažným problémem především karanténní rakovina kůry kaštanovníku (Chestnut Blight) *Cryphonectria parasitica* (Murr.) Barr. (*Endothia parasitica* (Murr.) And. et And.), zavlečená kolem roku 1900 z Asie zprvu do Severní Ameriky (1902) a poté v roce 1925 do západní Evropy. Na evropském kaštanovníku jedlém však byla zjištěna již kolem roku 1880 v oblasti Kavkazu (PRIDNYA 1996). Na území tehdejšího Československa byla rakovina kůry kaštanovníku roku 1976 objevena na Slovensku na lokalitě Prašice Duchonka v okrese Topoľčany (JUHÁSOVÁ 1990, 1991 in JUHÁSOVÁ 1999), na území České republiky byla zjištěna v roce 2002 (JANKOVSKÝ et al. 2002).

Cílem práce je zmapovat rozšíření kaštanovníku jedlého v České republice jako podklad pro zhodnocení jeho zdravotního stavu. Základní databáze o výskytu kaštanovníku jedlého *Castanea sativa* Mill. v České republice byla vytvořena na základě vyhodnocení literárních pramenů a dotazníkové akce. Byly osloveny orgány ochrany přírody, Agentury ochrany přírody a krajiny, správy CHKO a NP, vybrané orgány státní

správy, lesní správy Lesů České republiky. Využity byly rovněž dostupné podklady Národní inventarizace lesů. Kaštanovníky byly registrovány ve věku od 20 let.

Výskyt a zdravotní stav kaštanovníků se postupně ověřuje. Z dendrometrických charakteristik je u stromů zaznamenáván obvod kmene a celková výška. Jedná-li se o strom s více kmeny v prsní výšce, pak byly měřeny obvody jednotlivých kmenů nebo celkový obvod u země. Poloha stromu byla zaměřena pomocí GPS pro další zpracování vrstvy v GIS. Rovněž nadmořská výška byla získána pomocí GPS. Přesnost zaměření je ekvivalentní této metodě.

Byly získány informace o výskytu *Castanea sativa* Mill. na 286 lokalitách. Do konce roku 2002 byl potvrzen výskyt kaštanovníku na 140 makrolokality soustavně v krajích: Jihomoravský, Zlínský, Olomoucký, Moravskoslezský, Vysočina, Jihočeský a Pardubický, jednotlivě pak v některých okresech dalších krajů. Byl zaregistrován výskyt více než 400 individuálních stromů. S počtem stromů v porostech lze počet hodnocených stromů odhadnout na asi 700. V rámci makrolokality jsou zahrnuty i rozdílné výsadby v jedné obci, případně lesní porosty, kde nebylo možné provést individuální šetření u každého ze stromů. Naopak výskyt kaštanovníku se nepodařilo potvrdit na asi 21 lokalitách. Dalších 150 lokalit (vesměs v západní části České republiky) bude ověřeno v příštích letech.

Nejseverněji dosud zaznamenanou lokalitou bylo Choustníkovo Hradiště v okrese Trutnov (50°26'10 s. š., 15°52'21 v. d.) a Náchod (50°25'09 s. š., 16°09'42 v. d.). Kaštanovníky se vyskytují všeměs do nadmořské výšky 500 m (80 % všech šetřených lokalit). Ve vyšších nadmořských výškách trpí klimatickými extrémy, především pozdními mrazy. Výskyt kaštanovníku byl zaznamenán na 27 lokalitách (asi 20 % šetřených lokalit), kde nadmořská výška přesahuje 500 m. Nejvýše položeným nalezištěm kaštanovníku je lokalita Nejdek v okrese Karlovy Vary, kde kaštanovníky prosperují v nadmořské výšce 678 m na stráni u hotelu Krásná Vyhlička. V nadmořské výšce 627 m byly zaznamenány kaštanovníky i na lokalitě Zubří v okrese Chrudim. Ve výšce 613 m n. m. je rovněž lokalita Pivoň v okrese Domažlice.

Nejmohutnější s kmeny s obvodem přes 300 cm byly zaznamenány na lokalitách Proseč (okr. Chrudim, obvod 395 cm a 377 cm), Zábřeh (Šumperk, 394 cm, Nejdek, 384 cm), Štěplovec (Opava, 360 cm a 300 cm), Chrást u Chrudimi (Chrudim, 310 cm), Herálec u Humpolce (Havlíčkův Brod, 300 cm), Nasavrky (Chrudim, více stromů v kaštánce).

Současné rozšíření kaštanovníku v České republice se nachází blízko hranice ekologického optima této dřeviny. Přesto je možné považovat kaštanovník za perspektivní dřevinu z hlediska možnosti jejího využití jako plodnosné dřeviny i dřeviny s produkcí dřeva. Kaštanovník by mohl být rovněž jednou ze dřevin, která by mohla stabilizovat současné dubové a bukové porosty v podmínkách klimatické změny. Významným momentem je

obdobná mykoflóra kořenů kaštanovníku, buku a dubů. Vedle působení klimatických extrémů je rizikovým faktorem pěstování kaštanovníku v podmínkách střední

Evropy především možnost dalšího rozšíření karanténní choroby rakoviny kůry kaštanovníku *Cryphonectria parasitica* (Murr.) Barr.

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