

# Species Datasheet

(Family.genus.species)

Datasheet No. G-007.005.014

DBT- Network Programme

## 1. Taxon:

Species: *Pinus mugo* Turra

Subspecies:

Variety:

Cultivar:

Hybrid:

Image file

**2. Synonyms:** *Pinus applanata* (Booth ex Loudon) Willk., *P. carpathicus* auct., *P. digenea* Wettst., *P. echinata* Carriere, *P. fischeri* Booth ex P. Lawson, *P. magellensis* Schouw, *P. montana* Mill., *P. montana* var. *applanata* (Willk.) Willk., *P. montana* var. *arborea* Tubeuf, *P. montana* subsp. *arborea* (Tubeuf) Hegi, *P. montana* var. *centrapedunculata* (Woerl.) Woerl., *P. montana* var. *frutescens-erecta* Tubeuf, *P. montana* subsp. *frutescens-erecta* (Tubeuf) Hegi, *P. montana* var. *gibba* (Willk.) Christ, *P. montana* var. *impressa* (Hartig ex Willk.) Dalla Torre & Sarnth., *P. montana* subsp. *mughus* (Scop.) Willk., *P. montana* var. *mughus* (Scop.) Greml., *P. montana* var. *prostrata* Tubeuf, *P. montana* subsp. *prostrata* (Tubeuf) Hegi, *P. montana* var. *pumilio* (Haenke) Spach, *P. montana* subsp. *pumilio* (Haenke) Celak., *P. montana* var. *pyramidalis* Schrot., *P. montana* f. *slavinii* Hornibr., *P. mughus* Laichard., *P. mughus* Scop., *P. mughus* f. *applanata* (Willk.) Beck, *P. mughus* var. *bicolor* Hartig ex Willk., *P. mughus* var. *brevispina* Hartig ex Willk., *P. mughus* var. *decumbens* Grab., *P. mughus* var. *depressa* Hartig ex Willk., *P. mughus* var. *impressa* Hartig ex Willk., *P. mughus* var. *laeta* Hartig ex Willk., *P. mughus* var. *leptoclada* Hartig ex Willk., *P. mughus* var. *longispina* Hartig ex Willk., *P. mughus* var. *lutescens* Hartig ex Willk., *P. mughus* var. *macroptera* Hartig ex Willk., *P. mughus* var. *pumilio* (Haenke) K. Koch, *P. mughus* f. *pumilio* (Haenke) Hayek, *P. mughus* var. *pumilio* (Haenke) Beck, *P. mughus* var. *rufa* Hartig ex Willk., *P. mugo* f. *applanata* (Willk.) K.I. Chr., *P. mugo* var. *arborea* (Tubeuf) Hyl., *P. mugo* var. *compacta* D. Hill, *P. mugo* f. *compacta* (D. Hill) Rehder, *P. mugo* var. *mughus* (Scop.) Zenari, *P. mugo* subsp. *mughus* (Scop.) Domin, *P. mugo* var. *nana* Loudon ex Gordon, *P. mugo* subsp. *pumilio* (Haenke) Franco, *P. mugo* var. *pumilio* (Haenke) Zenari, *P. mugo* var. *pumilio* (Haenke) Domin, *P. mugo* f. *slavinii* (Hornibr.) Rehder, *P. × obliqua* var. *centrapedunculata* Woerl., *P. obliqua* var. *centrapedunculata* Woerl., *P. pumilio* Haenke, *P. pumilio* (Haenke) Franco, *P. pumilio* var. *applanata* Willk., *P. pumilio* var. *atrata* Hartig ex Willk., *P. pumilio* var. *cinnamomea* Hartig ex Willk., *P. pumilio* var. *echinata* Hartig ex Willk., *P. pumilio* var. *ferruginea* Hartig ex Willk., *P. pumilio* var. *fischeri* Booth ex Loudon, *P. pumilio* var. *fursa* Hartig ex Willk., *P. pumilio* var. *gibba* Willk., *P. pumilio* var. *incurva* Hartig ex Willk., *P. pumilio* var. *limbata* Hartig ex Willk., *P. pumilio* var. *marginata* Hartig ex Willk., *P. pumilio* var. *nasuta* Beck, *P. pumilio* var. *nitida* Hartig ex Willk., *P. pumilio* var. *oblongata* Ten., *P. pumilio* var. *phaeoptera* Hartig ex Willk., *P. pumilio* var. *pura* Hartig ex Willk., *P. pumilio* var. *repressa* Hartig ex Willk., *P. pumilio* var. *revoluta* Hartig ex Willk., *P. pumilio* var. *rubriflora* Loudon, *P. pumilio* var. *striata* Hartig ex Willk., *P. pumilio* var. *turbinata* Hartig ex Willk., *P. pumilio* var. *variabilis* Hartig ex Willk., *P. pumilio* var. *virens* Hartig ex Willk., *P. rostrata* K. Koch, *P. rubriflora* Loudon ex Gordon, *P. squamosa*

Bosc ex Loudon, *P. sudeticus* auct., *P. sylvestris* var. *montana* (Mill.) Aiton, *P. sylvestris* var. *mugho* Chaix ex Vill., *P. sylvestris* var. *pumilio* (Haenke) Gaudin, *P. uncinata* var. *pumilio* (Haenke) Mathieu, *P. wettsteinii* Fritsch

### **3.Systematic Position:**

#### **Christenhusz et al. (2011)**

- Class: Equisetopsida C. Agardh
- Subclass: Pinidae Cronquist
- Order: Pinales Gorozh.
- Family: Pinaceae Spreng.
- Genus: *Pinus* L.
- Species: *P.mugo* Turra

#### **Bentham and Hooker (1862)**

Kingdom: Plantae

Division: Phanerogamia

Class: Gymnospermeae

Ordo: Coniferae

Tribus: Abietineae Eichler

Genus: *Pinus* L.

Species: *P. mugo* Turra

### **4.Distribution:**

**Global:** Native to Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic,

France, Germany, Italy, Macedonia, the former Yugoslav Republic of, Montenegro, Poland; Romania; Serbia, Slovakia, Slovenia, Switzerland, Ukraine

**India:** Introduced

### **5.Indigenous/Exotic/Endemic;Cultivated/Wild:Cultivated**

### **6.Threat Status:**

**IUCN:** Least concern

**BSI:**

**7.Habit and Habitat:** Evergreen shrub (1-7 m tall), from 1000-2200 m and as low as 200m in north of range

### **8.Life Form:** Phanerophytes

### **9.Economic Importance:** Ornamental, Pine cone syrup

### **10. Probable Progenitor of:**

### **11.DNA**

#### **C-value Methodology**

2C (40.20 pg) 63 Feulgen microdensitometry 63

2C (40.30 pg) 19 Feulgen microdensitometry 19

2C (42.80 pg) 4 Flow cytometry 4  
2C (45.40 pg) 96 Flow cytometry 96

**12. Basic chromosome number(s):**  $x=12$  2, 3, 8, 23, 35, 37, 63, 74, 78

**13. Zygotic chromosome number(s):**  $2n=24$  2, 3, 8, 23, 37, 63, 74, 78

**14. Gametic chromosome number(s):**

**15. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes):**

Image file

**16. Ploidy level:** Diploid 2, 3, 8, 23, 37, 63, 74, 78

Image file

**17. Agametoploidy:**

**18. Nature of polyploidy (auto, segmental, allo, autoallo):**

**19. Genomic formula:**

**20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy):**

**21. Somatic chromosomes:** 23

Karyotype Median and submedian 23

**Chromosome size** Large 23

**NOR chromosome(s)** 1 2 23

**Degree of asymmetry** Symmetrical 23

Image file

**22. Banding pattern(s):**

Image file

**23. Physical mapping of chromosomes:**

**In situ hybridization**

Image file

**Fluorescent in situ hybridization:**

Image file

**24. Genomic in situ hybridization:**

Image file

**25. Linkage map:**

Image file

**26. Chromosome associations:**

**Female meiosis**

**Male meiosis**

Image file

**27. Chromosome distribution at anaphase I:****28. Genetic diversity:**

**Chromosomal level**

Image file

**DNA level**

**29. Any other information (Apomixis; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocation etc.):**