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***Cryptomeria japonica* D. Don ‘Władysław Bugała’
– a new cultivar of Japanese Cedar**

Cryptomeria japonica D. Don ‘Władysław Bugała’
– nowa odmiana szydlicy japońskiej

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ABSTRACT: new cultivar of Japanese Cedar is described and illustrated. It originated from seeds received in 1961 from Gadow Arboretum (E Germany) and was propagated by cuttings in 1978 and 1985. The maternal tree in Rogów was killed by frosts during severe winter of 1986/87. The newly described form differs from the type in having very short needles.

Key words: ornamental trees, conifers, Taxodiaceae

A tree conical in shape, with airy crown. Shoots thin, straight, growing vertically from the trunk, their tips upward. Needles dark green, stiff, slightly curved at an angle 25-40° towards shoot tips, 3-4 mm in length (range 2-6 mm), the shortest ones on younger shoots (Fig. 1).

Three individual trees from the Glinna Arboretum, propagated vegetatively in 1978, growing in light shade, at the age of 31 reached the breast height circumference of 0.13, 0.14 and 0.16 m and up to 13.5 m in height. One specimen in Rogów, propagated in 1985, at the age of 23 is 0.13 m in breast height circumference and 8.5 m in height. The new form was described based on the length of needles and an arborescent habit, similar to the growth habit of type trees.

The maternal tree originated from seeds obtained from the Forest Arboretum in Gadow (Eastern Germany). The seeds germinated in 1961, resulting in 20 seedlings which were planted in 1968 in the Rogów Arboretum. From the beginning one of the trees differed from the remaining plants in having short needles. Although during several severe winters with temperature dropping to -25°C and -28°C, ten trees were killed by frost, the short-needled form survived. It was propagated in 1978 and 1985. During severe winter of 1986/87, when the mean temperature in January reached -12.3°C, and for three times the frosts reached -30°C to -31.3°C, all ten remaining trees were killed. In 1980 they had been 9-14 cm in breast height circumference and 7-10 m in height.

Needles of the type trees of Japanese Cedar reach 6-15 (20) mm in length (Rehder 1960, Krüssmann 1991, Seneta 1981, Bugała 2000), therefore the above-described form may be regarded as short-needled cultivar. Until present approximately 200 cultivars have been described, mainly for Japan, most of them being unknown in Europe. Krüssmann (1991) describes 44 cultivars and two geographic varieties, and based on growth habit and shape, he indicates nine groups of cultivars. The first group, of regular, conical growth habit, includes two geographical variants – var. *radicans* Nakai and var. *sinensis* Siebold et Zucc., as well as two cultivars – ‘Compacta’ and ‘Lobbii’, non of these however fits the characters of the form described herein. The remaining eight groups include dwarf cultivars and varieties that differ from the type with various morphological characters such as shape, followed by needle length, pattern and colour and the length and pattern of shoots. The short-needled cultivars include ‘Gracilis’, ‘Selaginoides’ and ‘Pungens’, they are not however arborescent forms, with growth habit resembling that of the type forms.

From among dwarf cultivars with long, rather loosely set shoots and short needles one can mention the form ‘Araucarioides’. The picture published in *Conifers...* (Gelderens, Hoey Smith 2002) shows however a tree which is 14 m in height with widely conical, dense crown. A description, a drawing and a photograph in Krüssmann (1991) one can observe variable length of needles on shoots,



Fig. 1. The shoot of a newly described cultivar 'Władysław Bugała' (left) and of a type form (phot. by Piotr Banaszczak)

long shoots terminating with bunches of short shoots, and that the crown of a tree is irregular.

Although Japanese cedar can be grown in climatic zone 7, even in such conditions the trees can be damaged during long, severe frosts. In general it demands mild climate, much precipitation and air humidity. Only few trees from before WWII remained in Poland, most of the plants being planted after 1945 (Seneta 1981).

The name of the form is to commemorate Professor Władysław Bugała (1924-2008), eminent Polish dendrologist associated with the Kórnik Arboretum.

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