‘Ansu Hwanggeumsong’, ‘Ansu Migeumsong’, and ‘Ansu Hobansong’ Black Pine Cultivars

Jeong-Ho Lee

Korea Forest Seed and Variety Center, Variety Examination Division, 670-4 Suhoeri, Suanbo, Chungju, Chungbuk-Do 380-941, Republic of South Korea

Additional index words. ornamental plant, topiary, bonsai, plant introduction, conifer, gymnosperm, *Pinus*

The Japanese black pine (*Pinus thunbergii* L., Pinaceae) is prized in bonsai, topiary, and as an ornamental and garden plant. It is found in hardiness zones 5 to 10. It is a garden tree in Korea and Japan and also used as a bonsai because it can be trained and has many latent buds (Bitner, 2007; Dirr, 1990; Lee, 1999).

Today, ≈7.6 billion *P. thunbergii* bonsai are sold annually in Korea (Korea Forest Service, 2008). There are currently 13 cultivars: Compacta, Globosa, Iseli, Majestic Beauty, Mini Mounds, Mt. Hood Prostrate, Oculus-draconis, Pygmaea, Thunderhead, Banshosho, Tailored, Green Elf, and Shinrome Janome (Bitner, 2007; Dirr, 1990). Two new varieties with yellow leaves and shoots (‘Ansu Hwanggeumsong’ and ‘Ansu Migeumsong’) were selected from 3-year-old seedlings of a 47-year-old *P. thunbergii* population. A third cultivar, Ansu Hobansong, was selected from an 18-year-old *P. thunbergii* population from Macdo, Jeon Nam Province, in 1995. This report describes these three new cultivars.

Origin

In 1995, a 3-year-old ‘Ansu Hwanggeumsong’ (AP 929501; PI 30490) sapling with yellow leaves and shoots was selected from a 47-year-old population of 1000 plants of *P. thunbergii* [height 20 m, diameter at breast height (DBH) 30 cm] that were planted in Jeon Nam Province in 1947. We selected 30 scions from the original sapling in 1996 and grafted these to 4-year-old stock *P. thunbergii*. These grafts were repeated annually to produce 1000 grafted plants by 1999 and planted in field trials at the Ansu Pine Plantation nursery. It was initially selected for replicated field trials by J.H. Song in 1993. Today, we have 30,000 ‘Ansu Hwanggeumsong’ plants, both from 14-year-old grafts and 8- to 13-year-old individuals with the same uniform characteristics as the parent tree, and filed the application for the protection of a variety (No. 2009-18).

In 1995, a 3-year-old ‘Ansu Migeumsong’ (AP 929502; PI 560450) sapling with yellow

leaves and shoots was selected out of a population of 1000 plants of 47-year-old *P. thunbergii* (height 20 m, DBH 30 cm) planted in Jeon Nam Province in 1947. We selected 10 scions from the original sapling in 1996 and grafted these to 4-year-old stock *P. thunbergii*. From 1996 to 1998, 500 individuals were grafted and planted in field trials at Ansu Pine Plantation nursery. Currently, there are 500 14-year-old ‘Ansu Migeumsong’ plants, 10 11- to 13-year-old plants, and 500 younger individuals with the same uniform and stable characteristics as the parent tree. An application for the protection of a variety has been filed (No. 2009-17).

‘Ansu Hobansong’ was selected in 1995 from 18-year-old *P. thunbergii* plants for its ivory-colored lateral branches (height 12 m, DBH 20 cm), also from Jeon Nam Province. We selected 30 scions and grafted these to 30 4-year-old stock *P. thunbergii* plants. Between 1996 and 1998, an additional 1000 individuals were grafted and planted in field trials at Ansu Pine Plantation nursery. By 2009, we had 1000 ‘Ansu Hobansong’ plants that retain the parental characteristics even after 12 to 14 years of cultivation. An application for the protection of a variety has been filed (No. 2009-19).

Description

Main characteristics. All three cultivars originated as seedlings grown at Young Gwang-Gun from parent stock *P. thunbergii*.

‘Ansu Hwanggeumsong’ (AP 929501; PI 30490) is a 14-year-old narrow-leaved evergreen tree that is 5.5 m high with a DBH of 20 cm and a crown width of 6 m (Fig. 1). Mature leaves are 16.2 cm long and 1.44 mm wide and are smaller than normal leaves of *P. thunbergii* (leaves 17.3 cm long and 1.4 mm wide). New leaves appear in May and June and are in the yellow–orange group [Royal Horticultural Society (RHS) 144 C–D; RHS Horticultural Society, 2007]. The leaf edge turns yellow by the end of August, and whole leaves rapidly turn yellow after frost. From October to April, the trees remain in the yellow group, similar to *P. thunbergii*. A strong characteristic of ‘Ansu Hwanggeumsong’ is much clearer

yellow leaves and, by mid-May, yellow primary shoots.

‘Ansu Migeumsong’ (AP 929502; PI 560450) is a 14-year-old narrow-leaf evergreen tree that is 3 m high with a DBH of 14 cm and a crown width of 3 m (Fig. 1). Mature leaves are 12.1 cm long and 1.0 mm wide. New leaves are almost ivory white, appear in May to June, and are in the yellow–green group (RHS 150 A–B), later becoming a deep golden color. Young shoots from May to July fall into the yellow–orange group and then change to green from the inside to the outside in August. Yellow–green group leaves are only new leaves, the color being greener than *P. thunbergii* later in the year, and from August to the end of April of the next year are more bluish green than *P. thunbergii*. These plants must be cultured in shade to prevent the leaves from burning.

‘Ansu Hobansong’ (AP 929503; PI 640570) is a 14-year-old, narrow-leaved evergreen tree that is 3.2 m high with a DBH of 8 cm and a crown width of 3.5 m (Fig. 1). Mature leaves are 14.1 cm long and 1.0 mm wide. The leaf is white or yellow with vertical stripes, unlike ‘Oculus-draconis’, which is *P. thunbergii* and has horizontal stripes (Dirr, 1990). In shade, leaves contain more white color, but in sunlight, they have a strong yellow color; winter buds are yellow. Different types of striped leaves emerge from the shoot, including leaves with two bright yellow bands, and nonstriped needles. At the brush stage, the tips of weak leaves wither and are lost in the fall, but strong leaves are retained on the shoot. ‘Ansu Hobansong’ is basically in the yellow group (RHS 11 A–B), but its leaves in the shade or weak light are white and turn from ochre to bright ochre in fall. Secondary shoots are lighter ochre than primary shoots but have the same characteristics as primary shoots. Short-needled leaves are less likely to wither and keep their color in the shade.

Culture. ‘Ansu Hwanggeumsong’, ‘Ansu Migeumsong’, and ‘Ansu Hobansong’ grow well in sunlight and well-drained soil with loamy sand. The color of ‘Ansu Hwanggeumsong’ is better in sunlight, whereas shaded trees growing close together have less vibrant color. In April, a 9-cm side veneer graft is tied to stock for vegetative propagation (Toogood, 1999). Secondary shoots cut in May have a more beautiful yellow color in leaves than primary shoots and are used for grafted plants; single trees are best planted by themselves in bright sunlight and then pruned. If trees grow strongly in bright sunlight, needles can burn from the outside to inside, so young trees should be grown in shade. This tree is suitable for minimolding, bonsai, and pot culture indoors. One of the best characteristics of ‘Ansu Migeumsong’ is the spotted yellow color in primary shoots from May to July, which can be retained through topiary pruning.

The color of ‘Ansu Hobansong’ also changes in shade. Short-needled trees can be obtained from shoots cut in June and July, which retain various yellow colors and stripes. Grafts with more than 50% yellow stripes lead

Fig. 1. *Pinus* 'Ansu Hwanggeumsong' (A), 'Ansu Migeumsong' (B), and 'Ansu Hobansong' (C).

to too many yellow leaves that weaken the tree. The golden color of 'Ansu Hobansong' can be retained through a balance between green and variegated branches through pruning.

Availability

Like other woody ornamentals in the Ansu Pine Plantation, 'Ansu-Hwanggeumsong', 'Ansu-Migeumsong', and 'Ansu-Hobansong' are entitled to protection as varieties and

cannot be propagated and sold freely, but these plants are available for wholesale, by mail order, and from a few retail nurseries. The Ansu Pine Plantation has stocks of these cultivars available for general distribution.

Literature Cited

- Bitner, R.L. 2007. Conifers for gardens: An illustrated encyclopedia. Timber Press, Inc., Portland, OR. p. 317–319.
- Dirr, M.A. 1990. Manual of woody landscape plants. Stipes Publishing Company, Champaign IL.
- Korea Forest Service (KFS). 2008. Production of forest products (2007). KFS, Daejeon, Korea.
- Lee, T.B. 1999. Illustrated flora of Korea. Hyangmunsa, Seoul, Korea. p. 57.
- Royal Horticultural Society (RHS). 2007. RHS colour chart. RHS, London, UK.
- Toogood, A.R. 1999. Plant propagation. American Horticultural Society, New York.