

Toshio KATSUKI^{a,*} and Naoki HAYASHIBE^b: A New Form of *Padus grayana* (*Rosaceae*) Discovered in Nagano Prefecture, Japan

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Summary: *Padus grayana* (Maxim.) C.K.Schneid. (*Rosaceae*) is a deciduous tree distributed from Hokkaido to Kyushu in Japan and throughout southern China. *Padus grayana* with compound racemes were found in Nagano Prefecture by Hayashibe. We further observed individuals with this inflorescence mutation in Miyagi, Niigata and Kyoto Prefectures and Tokyo Metropolis. The long-term stability and heredity of this mutation needs to be verified but it is academically interesting as a potential demonstration of inflorescence mutation. It could also have future agricultural and horticultural uses. We recognize the plants as a new form, *P. grayana* f. *paniculata* T.Katsuki & Hayashibe.

Padus grayana (Maxim.) C.K.Schneid. is a deciduous tree distributed throughout Hokkaido, Honshu, Shikoku and Kyushu (Ohba 2001, Ikeda et al. 2016). *Padus acrophylla* C.K.Schneid., which is distributed throughout southern China, is considered to be a synonym of *P. grayana* (Lu et al. 2003). Although *Padus* is included in the genus *Prunus sensu lato*, we use the genus name *Padus* following Ohba (2001), Lu et al. (2003) and Ikeda et al. (2016) in this article.

One of the major characteristics of the genus *Padus* is its racemose inflorescences. Hayashibe discovered *P. grayana* with a compound raceme (Fig. 1). In these compound racemes some flowers at the middle to lower part of first-order axis are replaced by second-order inflorescences with 2–14 flowers (Fig. 2). No such inflorescence morphology had previously been reported in *Padus*. For clarity, we follow

the usage of terms relating to plant inflorescences described by Ohashi (2016).

Padus grayana with compound racemes were found in wild populations in Nagano and Niigata Prefectures by Hayashibe. In addition, *P. grayana* with compound racemes were confirmed from photographs in Miyagi and Kyoto Prefectures and Tokyo Metropolis. No significant difference in the tree's morphology other than the change in inflorescence was observed. Individuals with compound racemes were rare, and 10% to 80% of the inflorescences had compound racemes.

Inflorescence mutations are thought to be controlled by genes associated with inflorescence architecture (Prusinkiewicz et al. 2007). Although the long-term stability of this mutation must be verified by observation over multiple years and clones propagated by grafting or cutting and it is also necessary to verify the heredity of the mutation by seedling reproduction. The observed mutation in *Padus grayana* could help study the genetic control of inflorescence morphology.

The mutation due to a genetic factor will potentially be useful for future agriculture and horticulture. Many important stone fruit trees are included in *Prunus sensu lato*. Most species of *Prunus* have inflorescences with few flowers. It might be expected that productivity can be improved through the mutation of inflorescences to a compound form using genetic modification method. *Padus avium* Mill. also used as an ornamental tree in Europe and the United

zakura.

新和名：フサザキウワミズザクラ

Padus grayana f. *paniculata* is different from the typical form by having a compound racemose inflorescence.

Deciduous tree, up to 10 m high. Inflorescence terminating on the current year's branches with 4–6 leaves, simple and compound racemes within the same tree. Compound raceme 80–112 mm long, with 14–28 flowers at the top parts of the first-order axis, 1–18 second-order inflorescences and 0–8 flowers at the middle to lower part. In second-order inflorescences, the second-order peduncle 16–24 mm long, second-order axis 8–24 mm long, with 2–14 flowers, flowers April to May, pedicel 4–7 mm long, hypanthium cup-shaped, ca. 2.2 mm long, petals ca. 2.8 mm long.

Additional specimens examined: JAPAN. Honshu. Nagano Pref., Nagano City (C.Nakamura s.n., 17 May 2021, NAC 198565); Nagano City, Otagiri (N.Hayashibe s.n., 17 May 2021, TNS 1330924; C.Nakamura s.n., 17 May 2021, NAC 198566); Niigata Pref., Myoko City, Sekigawa (N.Hayashibe s.n., 18 May 2021, NAC 198567, TNS 1330295).

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勝木俊雄^a, 林部直樹^b：長野県で発見されたウワミズザクラ (バラ科) の新品種

バラ科ウワミズザクラ属のウワミズザクラは、北海道から九州・中国南部に分布する落葉高木であり、総状花序をつけることが特徴である。ところが、林部によって複総状花序となっているウワミズザクラが長野県の野生集団中で発見された。この花序の変異をもつ個体は、宮城県や新潟県、東京都、京都府などでも確認された。そこで、新品種 *Padus grayana* (Maxim.) C.K.Schneid.

f. *paniculata* T.Katsuki & Hayashibe フサザキウワミズザクラとして学名を発表する。この変異の安定性と遺伝性はこれから検証されるべきであるが、花序の変異を示す素材として学術上きわめて興味深い。また、将来の農業や園芸への利用が期待される。

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