Chromosome number of *Camellia changii* Ye

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ABSTRACT. The chromosome number of *Camellia changii* Ye, a summer flowering camellia, was $2n=30$, diploid ($X=15$), reported here for the first time.

KEYWORDS: *Camellia changii*, Chromosome number, Diffuse type resting nucleus, Diploid ($2n=30$)

Camellia changii Ye was discovered in a small area in a hilly area altitude at 300–450 m in Yangchun City, Guangdong Province, the People's Republic of China (Cao *et al.* 2005). It was described by Ye (1985) rather new to *Camellia* after a long time people thought it would be an azalea (see Fig. 1) since this species was very unusual to the genus to bloom during the mid-summer although most of the species of *Camellia* flower during the autumn, winter to spring seasons in the natural distribution in the northern hemisphere. It looks like *Rhododendron* in flowering season, flower and leaf morphology (Fig. 1).

Chromosome numbers of *Camellia* have been reported by Ackerman (1971), Kondo (1977, 1978a, 1990). However, some species of the genus have been reported no chromosome counts due to some reasons such as newly discovered or described taxa. They must be placed in the basic chromosome number of $X=15$ (Ackerman 1971; Kondo 1977, 1978a, 1990). Reporting chromosome numbers is very important to get a basic information on close relationships of species to make artificial cross-hybridization.

The chromosome number of *C. changii* is here reported for the first time.

MATERIALS AND METHODS

Plant material. *Camellia changii* Ye (Fig. 1) was currently introduced at commercial base including to Japanese markets. A grafted individual plant of the species was purchased and made stem-cuttings for the purpose of chromosome counting.

Methods. Root tips of the plant of the species were harvested and placed in 0.002 M 8-oxyquinoline at room temperature for 2h. They were fixed in 45% acetic acid at 4°C for 5 min before they were macerated in 1N HCl: 45% acetic acid=2:1 at 60°C for 10 sec. Their root-tips were cut and stained in 1% aceto-orcein on glass slides

Fig. 1. Flowers and leaves of *Camellia changii* Ye

and were in moistened chamber for 2h. Then, they were put cover-slips, tapped and squashed. They were, then, pressed well by fingers and sealed by paper bonds.

RESULTS AND DISCUSSION

Camellia changii Ye had the resting nucleus of the diffuse type (Fig. 2a), which was same as that of the other species studied (Kondo 1978b). The chromosome number of the species was $2n=30$ (diploid), that was reported here for

Fig. 2. Karyomorphology of *Camellia changii* Ye. A. Diffuse type of resting nucleus. B. $2n=30$ at prometaphase. C. $2n=30$ at metaphase (diploid). Bar= $4.0\mu\text{m}$

the first time (Fig. 2b and c).

Camellia changii has the most spectacular habit on summer-flowering that has never been found in any other species of the genus. It was thought as an azalea for a long time due to morphology of flowers and leaves and flowering season of some species of evergreen azaleas. The summer flowering habit of *C. changii* should be introduced to the cultivation world of *Camellia* by artificial cross breeding shortly to see *Camellia* flowers from the winter-limited period to all-year around flowering seasons.

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