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ITS와 *rbcL* 염기서열 분석을 통한 *Kalopanax pictus* 감별 DNA 마커 개발

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Development of DNA Marker for Discrimination of *Kalopanax pictus* using Nucleotide Sequences of Internal Transcribed Spacer (ITS) and *rbcL*

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Objectives

'Eucommiae Cortex' (EC) is often used in traditional herbal medicine as an anti-rheumatic, anti-inflammatory, expectorant and tranquilizer. In Korea, the stem bark of *Kalopanax pictus* (Thunb.) Nakai, which belongs to the family *Araliaceae*, is prescribed as EC. In contrast, in China, the stem barks of *Erythrina variegata* and *E. arborescens*, which belong to the family *Leguminosae*, are prescribed as EC. We will reveal the genetic relationship among collected plants based on variation in the determined nucleotide sequences of the ITS and *rbcL*. Furthermore, we develope DNA marker(s) for the identification and discrimination of each plant using EC, specifically, *K. pictus.*

Materials and Methods

○ Materials

Samples of *K. pictus*, *Erythrina* plants and other plants prescribed as EC instead of those plants or varieties of those plants were collected from provinces in Korea, Vietnam and China.

○ Methods

To analyze the genetic relationship among collected samples and to develope an efficient method for the identification of each plant, we determined the nucleotide sequences of the ITS and *rbcL* of the samples.

Results

We amplified 700 - 750 bp ITS and longer than 1.3 kbp *rbcL* products and confirm whether or not the observed differences in nucleotide sequences of the collected plats are sufficient for discrimination. Based on these results, we develope DNA marker(s) for the identification and discrimination of each plant using EC, specifically, *K. pictus.*

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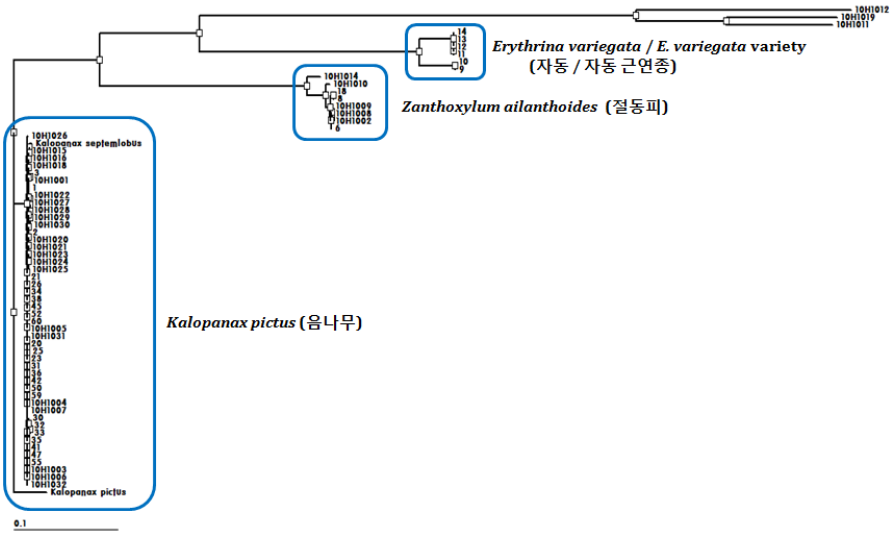

Fig. 1. Dendrogram based on the nucleotide sequence of ITS

Fig. 2. Dendrogram based on the nucleotide sequence of *rbcL*

References

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