Karyotype analysis of two *Zingiber* species in Thailand

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Abstract

Zingiberaceae is one of the most highly in monocotyledonous families. Thailand is one of the richest countries for Zingiberaceae in the world. In the present at least 300 species from 26 genera are found throughout Thailand. In this research, karyological investigations of two medicinally important species belonged to the genera *Zingiber* was performed. Chromosome numbers were counted in actively growing root tips of the cultivated plants. Slides for chromosome numbers were prepared by Feulgen squash method. Standard techniques of karyotype study followed Levan's methods to determine the position of the centromere and other related parameters and were carried out in the laboratory room at Walai Rukhavej Botanical Research Institute, Mahasarakham University. The results showed that somatic chromosome number of both *Zingiber mekongense* Gagnep and *Zingiber zerumbet* (L.) Smith were $2n = 22$ and including metacentric (m) submetacentric (sm) and acrocentric (a). The karyotype formular of *Z. mekongense* Gagnep was $2n (22) = L^a_{10} + M^{sm}_4 + M^a_8$ with asymmetrical karyotypes and *Z. zerumbet* (L.) Smith was follows: $2n (22) = L^m_6 + L^{sm}_6 + M^m_6 + M^{sm}_4$ with symmetrical karyotypes respectively. Of the data acquired to support the classification type and including notes on chromosome Atlas of plants found in Thailand.

Keywords: Chromosome numbers, Karyotype, *Zingiber*, *Z. mekongense*, Z. zerumbet