

# **Identification of *Anoectochilus formosanus* and *Anoectochilus koshunensis* species with RAPD markers.**

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## **Abstract**

RAPD (random amplified polymorphic DNA) markers were developed to distinguish *Anoectochilus formosanus* from *Anoectochilus koshunensis* and their putative hybrids. Morphological differentiation of these two species beyond the flowering period is difficult. RAPD markers provide a rapid and easy tool for identification of the two *Anoectochilus* species. In the study, forty arbitrary decamer primers were screened, and nineteen species-specific RAPD markers generated from polymerase chain reactions (PCR) with eight random primers were obtained. Nine were specific to *A. formosanus* and ten to *A. koshunensis*. Two primers, OPC-08 and OPL-07, produced two markers, one specific to *A. formosanus* and the other specific to *A. koshunensis*, which simultaneously appeared in the hybrids pattern. The RAPD markers can be applied both to identification of *A. formosanus* and *A. koshunensis* species and to assessment of the extent of hybridization in hybrids between them. This information facilitates the breeding program process.