

## Relationships within *Hypoxylon* species based on morphological and molecular data

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*Hypoxylon* is one of the largest and best known genera of the family Xylariaceae. It has been reported to comprise of at least 130 species and found in most countries but is especially well represented in the tropics and subtropics. Although *Hypoxylon* species are primarily wood-decay fungi, that play an important role in the natural functions of ecosystems, many species are weak plant pathogens of angiosperms. Some *Hypoxylon* species seem to be highly host specific but others appear to exhibit wide host ranges. In this study, relationships between *Hypoxylon* species are revealed based on their morphological and molecular characteristics. One hundred and eighty six *Hypoxylon* specimens were collected from several forest areas in Thailand and these were then subjected to taxonomic investigation based on their morphological and cultural features and nucleic acid sequences. It was found that there can be considerable variation in morphological characters and furthermore some specimens could not be cultured. This resulted in some identification problems. However, different relationships between the *Hypoxylon* species were achieved following sequence analysis of ITS1-5.8S-ITS2 rDNA regions. The molecular results showed clearly the relationships of the *Hypoxylon* species studied and could be used to solve the morphological taxonomic problems. The ITS1 region indicated the highest variation among *Hypoxylon* species whereas 5.8S and ITS2 regions were more conserved. These molecular data could be applied for distinguishing morphological similar *Hypoxylon* species which had otherwise proved difficult to separate.