Kusumawadee Prasatsri 2006: Identification of Yeast Isolated from Organic Matters in Mangrove Forests by Conventional and Molecular Taxonomy. Master of Science (Microbiology), Major Field: Microbiology, Department of Microbiology.
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Seventy yeast isolates obtained from decayed plant parts (branches, leaves, barks and fruits) which were collected from mangrove forests in eastern provinces (Trat and Chanthaburi) and southern provinces (Petchaburi, Prachuap Khiri Khan, Chumphon and Surat Thani) of Thailand were identified on the basis of analysis of D1/ D2 domain of 26S rDNA sequences similarity. Fifty-three isolates were identified as to known species in Phylum Ascomycota, Class Hemiascomycetes, Order Saccharomycetales because their D1/ D2 domain sequences difference by only 0-2 nucleotide substitutions from their closest species. Thirty isolates represented 9 species of 5 genera in Family Saccharomycetaceae while 23 isolates were identified as 11 species of 2 genera in Family Candidaceae. The other 12 isolates were assigned as novel species based on the different in sequences of D1/ D2 domain of 26S rDNA that greater than 1% nucleotide substitutions. In this study 12 novel species were purposed by using polyphasic taxonomy including conventional taxonomy, chemotaxonomic study, molecular taxonomy based on sequencing of D1/ D2 domain of 26S rDNA and phylogenetic analysis. They were *Candida bangsaphanensis* sp. nov., *Candida chanthaburiensis* sp. nov., *Candida kungkrabaenensis* sp. nov., *Candida langsuanensis* sp. nov., *Candida phetchaburiensis* sp. nov., *Candida rayongensis* sp. nov., *Candida surathaniensis* sp. nov., *Candida tratensis* sp. nov., *Debaryomyces chumphonensis* sp. nov., *Debaryomyces siamensis* sp. nov., *Kluyveromyces siamensis* sp. nov. and *Pichia prachuapensis* sp. nov. Five isolates could not be identified to species level, including *Candida* sp. EM 53, *Candida* sp. EM 96, *Candida* sp. SM 25, *Debaryomyces* sp. EM 2 and *Debaryomyces* sp. EM 64, and more study is needed.

The predominant described species found in this study was *Issatchenkia orientalis* (7 isolates). On the other hand most of the novel species were belonged to the genus *Candida*. The result of this study revealed that 17.1% of the total isolates represented novel species.

Kusumawadee Prasatsri — Student's signature

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