

Chanita Boonmak 2009: Diversity of Yeast in Water and Sediment from Mangrove Forest in the Upper Coast of the Gulf of Thailand. Master of Science (Microbiology), Major Field: Microbiology, Department of Microbiology. Thesis Advisor: Professor Savitree Limtong, Dr.Eng. 147 pages.

Diversity of yeast in water and sediment from mangrove forests on the upper coast of the Gulf of Thailand in east coast (Chantaburi and Trat) and west coast (Phetchaburi and Prachuap Khiri Khan) were investigated by isolation and identification on the basis of analysis of the D1/D2 domain of the large subunit rDNA sequence similarity. From 138 yeast strains which were isolated from water, 134 strains were identified to be 34 described yeast species consisted of *Brettanomyces naardenensis*, *Candida albicans*, *C. diversa*, *C. cf. glabrata*, *C. fukuyamaensis*, *C. intermedia*, *C. natalensis*, *C. parapsilosis*, *C. pseudolambica*, *C. quercitrusa*, *C. rugosa*, *C. sanittii*, *C. silvae*, *C. thaimueangensis*, *C. tropicalis*, *Clavispora lusitaniae*, *Galactomyces reessii*, *Hanseniaspora clermontiae*, *H. guilliermondii*, *Kloeckera lindneri*, *Kluyveromyces siamensis*, *Kodamaea ohmeri*, *Lindnera subsufficiens*, *L. veronae*, *Pichia caribbica*, *P. guilliermondii*, *P. kudriavzevii*, *P. occidentalis*, *P. terricola*, *Rhodotorula glutinis*, *R. mucilaginosa*, *Saccharomyces cerevisiae*, *Torulaspora delbrueckii* and *T. maleeae*, two strains were similar to an undescribed species namely *Hanseniaspora* sp. ST-464, and two strains were assigned to be two novel species which were named as *Candida astuarii* sp. nov. and *Candida prachuapensis* sp. nov. Among 56 strains which were isolated from sediment, 52 strains were identified to be 17 described species, namely *Candida chrysomelidarum*, *C. gotoi*, *C. pseudolambica*, *C. sanittii*, *C. silvae*, *C. thaimueangensis*, *C. tropicalis*, *Debaryomyces hansenii*, *D. nepalensis*, *Hanseniaspora guilliermondii*, *Kluyveromyces siamensis*, *Kodamaea ohmeri*, *Lindnera subsufficiens*, *Metschnikowia koreensis*, *Pichia kudriavzevii*, *P. occidentalis* and *Wickerhamomyces sydowiorum*, two strains were similar to an undescribed species *Pichia* sp. IS1-01. While two strains were assigned to be two novel species which were named as *Pichia tratensis* sp. nov. and *Saturnispora siamensis* sp. nov. The result of investigation revealed that seven yeast species were found in both east and west coasts of the Gulf of Thailand mangrove forests. The species which were found only in water of both east and west coastal mangrove forests of the Gulf of Thailand were *Pichia guilliermondii*, *P. kudriavzevii* and *Rhodotorula mucilaginosa* whereas *Metschnikowia koreensis* was particularly found in sediment. As well as *Candida thaimueangensis*, *C. tropicalis*, *Hanseniaspora guilliermondii*, *Kluyveromyces siamensis* and *Kodamaea ohmeri*, could be detected in both water and sediment. The species which were frequency isolated from mangrove forests in the upper coast of the Gulf of Thailand are *Rhodotorula mucilaginosa* (35 strains), *Candida tropicalis* (31 strains) and *Kluyveromyces siamensis* (19 strains).

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Thesis Advisor's signature