

## ABSTRACT

Screening and isolation of thraustochytrids from fallen senescent mangrove leaves of 3 stations in Chon Buri Province: Natural and Mangrove Reservation Study Center (S1), Klong Prong Mangrove forest, Ang Sila (S2), and Sattahip Naval Base, Sattahip (S3). A total of 715 thraustochytrid isolates were obtained, classified into 10 species, namely, *Aurantiochytrium mangrovei*, *Aurantiochytrium limacinum*, *Aurantiochytrium* sp.1, *Aurantiochytrium* sp.2, *Aurantiochytrium* sp.3, *Aurantiochytrium* sp.4, *Aurantiochytrium* sp.5, *Aurantiochytrium* sp.7, unknown 1 and unknown 2. Frequency of occurrence of thraustochytrids ranged from 2.50-57.50 %. The dominant species found in these areas were *A. mangrovei* and *A. limacinum*, and the leaves of *Avicennia alba* had the most abundance of *A. mangrovei* (57.50%) and *A. limacinum* (28.75%).

For the fatty acid composition in thraustochytrids, high content of DHA (Docosahexaenoic acid) were found in *A. limacinum* and *A. mangrovei* which represented as 4.71-191.07 mg/g dry weight (1.43-29.67 % of total fatty acid) and 20.75-175.34 mg/g dry weight (0.84-31.09 % of total fatty acid), respectively. Arachidonic acid (ArA) and eicosapentaenoic acid (EPA) were quite similar amount in thraustochytrids which the highest ArA and EPA found in *A. limacinum* (0.09 - 0.55 mg/g dry weight, 0.03-0.10 % of total fatty acids), and *A. mangrovei* (0.52-5.67 mg/g dry weight, 0.13-0.60 % of total fatty acids), respectively. High content of Docosapentaenoic acid (DPA) were revealed in *A. limacinum* and *A. mangrovei* as 1.37-37.71 mg/g dry weight (0.41-6.08 % of total fatty acid) and 4.74-41.87 mg/g dry weight (0.23-7.51 % of total fatty acid), respectively. The biomass of *A. mangrovei* and *A. limacinum* were revealed as 6.88-22.49 g/L, and 9.39-20.71 g/L, respectively. It is indicated that thraustochytrids have high potential for the source of polyunsaturated fatty acids, especially DHA and EPA, as an applicable for aquaculture or further commercial uses.

**Key words:** mangrove forest, Thraustochytrids, Polyunsaturated fatty acid, Docosahexaenoic acid (DHA), Eicosapentaenoic acid (EPA)