

ON THE MORPHOLOGY AND PHYLOGENY OF THE DIATOM GENERA *RHIZOLENIA*, *PROBOSCIA* AND *PSEUDOLENIA* FROM THAILAND

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The marine planktonic diatom genera *Rhizolenia*, *Proboscia*, and *Pseudolenia* were studied with respect to morphology and phylogeny. The samples came from seven locations in marine coastal waters of Thailand in the four provinces, Rayong, Chonburi, Chumphon and Phuket. The samples were collected in the period October 2008 to January 2011. Fifty strains were established in culture and used for morphological and phylogenetic analyses, and complemented with morphological studies of field material. The morphological studies were done using light microscopy, scanning and transmission electron microscopy. Ten species and two varieties of *Rizosolenia* were identified. The morphological diversity of *R. setigera* was high and did not agree with preliminary molecular data. *Pseudolenia calcar-avis* was also found and the detailed studies indicate this to be a species complex. *Proboscia* was represented by *P. indica* and a new *P. siamensis* species. Culturing and molecular analyses were often difficult or unsuccessful, but in spite of the problems it was successful for several taxa. The results on the diversity within selected the genera will be discussed, based on the results of the phylogenetic and morphological studies