



Band Schmidt, C.J., A. Martínez Lopez, J.J. Bustillos-Guzmán, L. Carréon-Palau, L. Morquecho, N.O. Olgúin-Monroy, T. Zenteno-Savín, A. Mendoza-Flores, B. González Acosta, F.E. Hernández-Sandoval & C. Tomas (2012). Morphology, biochemistry and growth of Raphidophyte strains from the Gulf of California. *Hydrobiologia*, 11(689): 81-97. DOI: 10.1007/s10750-012-1088-y

Morphology, biochemistry and growth of Raphidophyte strains from the Gulf of California

Christine Johanna Band Schmidt, Aida Martínez Lopez, José Jesús Bustillos-Guzmán, Laura Carréon-Palau, Lourdes Morquecho, N.O. Olgúin-Monroy, Tanie Zenteno-Savín, Armando Mendoza-Flores, Bárbara González Acosta, F.E. Hernández-Sandoval & C. Tomas

Strains of raphidophytes from different regions of the Gulf of California were established for identification and biochemical description. Raphidophytes in our coasts have been traditionally identified based on microscopic observations, a biochemical analysis of strains present in our coast is needed for a more detailed characterization and species confirmation. Strains were identified by morphological observations and sequencing of the 5.8S and COI regions. Cells were cultivated in modified f/2 media at 20 °C with a light-dark cycle (12 h:12 h) and 150 $\mu\text{mol m}^{-2} \text{s}^{-1}$ light intensity. Pigments were identified by HPLC, brevetoxins by LC-MS/MS, fatty acids by gas chromatography, superoxide radicals by spectrophotometry, and lipid peroxidation by the determination of thiobarbituric acid reactive substances. Strains were identified as *Chattonella subsalsa*, *C. marina*, and *Fibrocapsa japonica*. In all strains, the main pigment was chlorophyll a, followed by fucoxanthin, chlorophyll c1 and c2, violaxanthin, b-carotene, and diadinoxanthin. Strains were tested for PbTx-1, PbTx-2, PbTx-3, PbTx-6, PbTx-9, PbTx-carboxylic acid, brevenal, and brevisin; none were detected. All strains presented superoxide radical production and lipid peroxidation. The main fatty acids were 18:4 (n-3) and 20:5 (n-3). Strains had typical fatty acid composition for raphidophytes and produced brevetoxin-like compounds, had superoxide radical production, and lipid peroxidation. With this contribution, we confirm the presence of *C. subsalsa*,

Palabras clave: Morphology, *Chattonella*, DNA, Raphidophyte

Para obtener copia del documento contacta con el autor (cbands@ipn.mx) o con el personal de la biblioteca (bibliocicimar@ipn.mx).