POSTER PRESENTATION

SOME CHAETOCEROS SPECIES FROM AN OLIGOHALINE, SUBTROPICAL ESTUARY

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The Lake Pontchartrain basin estuary (LPBE) is shallow, wind-driven and comprised of two large embayments (1645 km^2), Lake Maurepas and Lake Pontchartrain. Salinities generally range from freshwater to 3 ppt in the west (Lake Maurepas, Pass Manchac and western Lake Pontchartrain) to ca. 8 ppt in the east (eastern Lake Pontchartrain, Chef Menteur Pass) nearer the Gulf of Mexico. Salinities across the LPBE often are higher during the fall when rainfall is lower. Flushing times are reported from 60-120 days. Phytoplankton investigations in the LPBE emphasizing species-level identifications are few in number. This report is part of an ongoing, floristic investigation of the planktonic diatom genus *Chaetoceros* Ehernberg occurring at seven open-water sites over one annual cycle and spanning the east-west salinity gradient in the LPBE. The results reported here include monthly samples from November 2008 - June 2009, but updates through September are planned for the poster presentation. Two separate plankton tows (10 µm and 35 µm mesh size) were combined into a single sample at each sampling event until June 2009 when a second sample was added from a 63µm mesh-size plankton net tow. Temperature, salinity, pH and DO were recorded at the sample site. Samples were examined fresh or preserved in 0.5% glutaraldehyde or 0.5% glutaraldehyde with 1% formaldehyde in Sørensens buffer, depending upon the salinity. Nine *Chaetoceros* taxa including two unidentified species were observed in extreme eastern Lake Maurepas, Lake Pontchartrain or the Chef Menteur Pass. Salinities in the east ranged from a high of almost 10 ppt in November and December 2008, to a low of 2.2 ppt in April 2009. In the west, salinities varied between 2-5 ppt during the eight-month period. Likewise, temperatures ranged from 15° C in November 2008 to 34° C in June 2009. The number of species observed were greater in November-January, then decreased through April, and were absent in all subsequent samples. In the west, *C.* cf. *costatus, C. lorenzianus,* and *C. subtilis* were observed in eastern Lake Maurepas and *Chaetoceros affinis* at the western most Lake Pontchartrain site. The largest number of species were identified at the Chef Menteur Pass, the eastern most site, where *C. affinis, C.* cf. *decipiens, C. radicans, C.* cf. *similis,* and *C. subtilis* var. *abnormis* as well as the two unidentified taxa were observed.