Abstract

Ostracode taxonomy has been of great interest because of their possible use as indicator species in climate and ecosystem changes. In Central and South America, few studies have been carried out and this study includes a contribution to the group. Eleven ostracode species were collected in Lago Petén Itzá (~100km²), the second largest lowland lake in Guatemala, and from its inflow tributary, Río Ixlú in November 2005 and February 2008. Twenty-seven surface sediment samples were retrieved at water depths from the littoral zone to the lakes maximum depth (>160m). Hard and soft parts of ostracodes were analyzed, and each ostracode species was described for taxonomy, size, ecology, biology and geographic distribution. Species recorded include: Candonocypris serratomarginata?, Cypretta brevisaepta?, Cypridopsis okeechobei, Cytheridella ilosvayi, Darwinula stevensoni, Heterocypris punctata, Limnocythere opesta, Physocypria globula, Pseudocandona sp., Stenocypris major and Strandesia intrepida. Most of the species have a neotropical distribution, two are distributed world-wide (D. stevensoni and S. major), and C. okeechobei and P. globula display nearctic and neotropical distributions. We present new records of C. brevisaepta?, C. serratomarginata?, S. major, and S. intrepida in Guatemala. Physocypria globula was misidentified previously in Lago Petén Itzá as Cypria petenensis, Pseudocandona sp. was misidentified as Candona sp., and C. okeechobei was identified in the past as C. vidua. Limnocythere opesta is the only endemic species of the Petén Lake District, Guatemala. The most abundant and widely distributed species in the lake are P. globula, C. okeechobei, and Pseudocandona sp. Species restricted to the littoral zones and water depths <15m are C. brevisaepta?, D. stevensoni, H. punctata, and S. intrepida. Limnocythere opesta, C. ilosvayi, C. okeechobei, and Pseudocandona sp. are distributed from the littoral zone to a depth of 40m. Species collected only in the Ixlú tributary and in a littoral zone on the west side of the lake were C. serratomarginata? and S. major. During November, live adult L. opesta and C. okeechobei were abundant, but no C. brevisaepta? or C. serratomarginata? adults were found. Adult specimens of C. ilosvayi were more abundant in February. In general, ostracodes collected were smaller than those reported in the literature. An accurate taxonomy will improve the use of ostracode fossil assemblages in long sediment cores when reconstructing past climatic and environmental changes in the northern lowland Neotropics. Rev. Biol. Trop. 58 (3): 871-895. Epub 2010 September 01.

Keywords

freshwater ostracodes, Lago Petén Itzá, Neotropics, taxonomy, Physocypria globula