Database composition of fatty acids from mexican giant water bug edible insect.

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Entomophagy is part of the cultural tradition of local people of different continents worldwide since ancient times. Giant water bugs highly appreciate and include at the daily diet of ethnic groups at some countries, this insect is underutilized at others. In Mexico and south Asia there are large reproductions of Giant water bug edible insect of the Belostomatidae family, *Lethocerus indicus* from South Asia and *Lethocerus americanus* from America both species inhabitants of fresh water rivers, streams and ponds than can be collected all year-round, either in the airborne phase when attracted to bright lights or with nets from under the water. Database about fat composition of these edible arthropods is relevant regarding information for human nutrition. This study was conducted to determine lipid composition of Mexican giant water bug to inform population the benefits of fatty acids can provide to prevent heart diseases and henance cardiovascular health. Sampling was, carried out on November 2011 at Xochimilco, Mexico lakeside area and chemical analysis of total lipids performed to oil extraction with petroleum ether in soxhlet apparatus. Fatty acids assessed with a gas chromatography entitled with a fused silica capillary column with helium as a carrier gas. Data obtained was: total lipids 16.92 %; unsaturated fatty acids (C18:1) 34.83%; (C18:3ω3) 0.55%; (C18:3ω6) 8.13%; (C20:5 ω3) 4.32%; (C18:0) 11.11%, (C20: 4 ω6) 5.68%, the oleic acid was the major fatty acid. Content, ω3 and ω6 reduces plasma triglycerides, cardiac arrhythmias, the risk of heart diseases and heart failure; and could preserve cardiac mitochondrial function by stimulating expression of proteins involved in cardiac lipid metabolism.

Key words: giant water bugs, fatty acids, heart diseases, human health.