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Foraminifera from surface sediments of a Brazilian mangrove affected by oil spill 20 years ago

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An abundant foraminifera fauna, composed by 22 species of the suborders Trochamminina, Textulariina and Allogromiina, was found in muddy sediments (first two centimeters) of three sectors of the Iriri - Tia Maria mangrove, Bertioga Channel, São Paulo State, SE Brazil. The total fauna, exhibiting low values of diversity, equitability and species richness, and high values of species dominance, is a result of a permanent and strong physical and chemical instability in the mangrove floor, in which the interstitial waters are mesohaline to polyhaline, acid and poorly oxygenated. Among the three recognized biofacies [*Miliammina fusca* – BF 1 (inner mangrove); *Trochammina inflata*/*Arenoparrella mexicana*/*Miliammina fusca* – BF 2 (sub-external mangrove fringe); and *Arenoparrella mexicana*/*“Haplophragmoides” wilberti* – BF 3 (external mangrove fringe)], the BF 1 is inserted in an area where there is an oil horizon ~12 cm below the surface. The heavy oil was spilled from a Petrobras oil pipeline in 1983 and is now in different degrees of biodegradation. The structure and composition of the BF 1 microfauna, as well as the morphological normality of the foraminifera tests (mainly on respect to *M. fusca*, which was found significantly deformed in sediments contaminated by oil in Canadian salt marshes), indicate that the surface muddy sediments are beyond the “contamination window”, probably since 10 years ago. Nevertheless, the substitution of a *Rhizophoretum* – destroyed in function of the oil spill – by an “atypical” *Laguncularia racemosa* forest, which is now re-colonizing the muddy floor, is an evidence that the plant roots are in contact with the oil. From now it is necessary to establish a program to core the contaminated area in several points, and try to characterize the pre and post oil spill foraminifera succession to know how these organisms reacted to the noxious event.