Concentrations and distribution of cadmium, chromium, copper, iron, lead, manganese and zinc in mosquito larval habitats in urban Kisumu and Malindi, Kenya and their effect on the presence of *Anopheles gambiae*, *Aedes aegypti*, *Culex quinquefasciatus* and *Anopheles funestus* larvae were investigated. Manganese and iron were the most prevalent heavy metals in water of larval habitats in urban Kisumu and Malindi, respectively. Iron was the most prevalent heavy metal in bottom sediments in larval habitats in both cities. The highest concentrations of all heavy metals, except cadmium and iron, were recorded in the poorly planned–well drained stratum in the two cities. All heavy metals were more concentrated in human-made than in natural larval habitats. Copper was positively associated with the presence of *Ae. aegypti*, and lead was associated with the presence of *An. gambiae* and *Ae. aegypti* in urban Kisumu. Absence of significant correlation between the other metals and mosquito species in both cities, despite relatively high concentrations, suggest that the local larval populations, including key malaria vectors have adapted to the detected levels of these metals.