

**A study of mercury levels in some selected animal tissues at Mgusu mining area, Geita in  
Mwanza, Tanzania**

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The aim of this study was to investigate mercury concentration in ducks, chickens and eggs found in Mgusu mining village, at Geita. Northwestern part of Tanzania. Samples analyzed were liver, lungs, gizzards and feathers; and in case of eggs. yolk, albumen and eggshells were analyzed by Atomic Absorption Spectrophotometer. The highest concentration (ppb) in liver ( $373 \pm 13.65$ ). lungs ( $32 \pm 4.00$ ), gizzard ( $170 \pm 9.22$ ) and feathers ( $143 \pm 8.45$ ) were recorded in ducks around the Mgusu mining area. Areas that were far from the mining areas had relatively low concentrations. The highest concentration (ppb) in liver ( $3 \pm 1.22$ ). lungs ( $0.15 \pm 0.27$ ). gizzard ( $0.8 \pm 0.63$ ) and feathers ( $0.01 \pm 0.07$ ) were recorded in ducks from Mwanza Town while in Dar es Salaam the concentration of mercury in ducks were not detected. Chicken samples which were collected around the Mgusu mining village showed elevated levels of mercury (ppb) in liver ( $663 \pm 18.21$ ). lungs ( $51 \pm 5.05$ ). gizzard ( $80 \pm 6.33$ ) and in feathers ( $214 \pm 10.34$ ). Chicken samples collected from Mwanza Town had relatively low concentration compared to those from Mgusu. The highest concentration (ppb) in liver ( $2 \pm 1.0$ ). lungs ( $0.3 \pm 0.39$ ). gizzard ( $0.5 \pm 0.55$ ) and in feathers ( $0.2 \pm 0.32$ ). Chicken samples from Dar es Salaam did not show the presence of mercury. Mercury concentrations in eggs were highest in yolk, and relatively low in albumen and egg shells. The highest concentration of mercury in duck's eggs were (ppb) in yolk ( $360 \pm 13.42$ ). albumen ( $59 \pm 5.43$ ) and in shell ( $5 \pm 1.58$ ) around the Mgusu mining area while in Dar es salaam the concentration of mercury were not detected. In case of chicken eggs, the highest concentration (ppb) in yolk ( $390 \pm 13.96$ ). albumen ( $51 \pm 5.05$ ) and in egg shell ( $7 \pm 1.87$ ) around the Mgusu mining area. In Mwanza Town, the highest concentration were (ppb) in yolk ( $3 \pm 1.22$ ). in albumen ( $2 \pm 1.0$ ) and in egg shell ( $0.5 \pm 0.55$ ) while in Dar es Salaam the concentration of mercury were not detected. This study shows that Mgusu mining village is contaminated with mercury and urgent measures are needed to solve the situation.