Microbiological quality and safety of Rastrineobola argentea retailed in Kisumu town markets, Kenya.

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OBJECTIVE:
To investigate faecal contamination and safety of Rastrineobola argentea sold in retail markets in Kisumu town.

DESIGN:
This was a repeated cross sectional study and based on random sampling. Setting: Kisumu city, targeting six markets; Oile, Jubilee, Kibuye, Kondele, Nyalenda and Manyatta.

RESULTS:
A total of 60 fish samples were analysed. All the fish were found to be contaminated with E. coli, and in addition 6.67% of the fish products tested positive for Salmonella. Shigella was absent in all samples analysed. 26.53% of E. coli isolates tested were resistant to two or more antimicrobial agents tested, with the highest level of resistance detected against cotrimoxazole at 38.76%. The E. coli multiple antibiotic resistance (MAR) index was 0.084 indicating that the contamination was not originating from a high-risk source. A plasmid of approximately 5.6 kb was commonly isolated from E. coli isolates that showed resistance to ampicillin. Plasmids isolated were not transferable by conjugation.

CONCLUSION:
The presence of Salmonella spp and occurrence of MDR E. coli were identified as some of the possible health risks that may be associated with R. argentea displayed for sale in Kisumu city markets. This possess a real health risk through consumption or directly through contact with the fish products.