

6 Conclusion

This study corroborates other studies that showed *P. shigelloides* is indigenous to the aquatic environment. Meanwhile, gentamicin and amikacin, a derivative of aminoglycosides, are shown to be more promising antibiotics that can be employed in aquaculture. The study provides baseline information for microbial risk assessment, antimicrobial resistance monitoring, and pond hygiene management in catfish aquaculture. It is therefore recommended that future studies should include molecular identification, resistance gene detection, and broader field sampling.

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Conflict of Interest Disclosure

The authors affirm that this research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

Study limitations

Lack of molecular confirmation, and absence of resistance gene testing for the study were observed.

References

- Adesiyun I.M., Bisi-Johnson M.A., Ogunfowokan A.O., and Okoh A.I., 2019, Incidence and antimicrobial susceptibility fingerprints of *Plesiomonas shigelloides* isolate in water samples collected from some freshwater resources in Southwest Nigeria, *Science of the Total Environment*, 665: 632-640.
<https://doi.org/10.1016/j.scitotenv.2019.02.062>
- Bello O.S., Olaifa F.E., Emikpe B.O., and Ogunbanwo S.T., 2012, The effect of walnut (*Tetracarpidium conophorum*) leaf and onion (*Allium cepa*) bulb residues on the tissue bacteriological changes of *Clarias gariepinus* juveniles, *Bulletin of Animal Health and Production in Africa*, 60(2): 205-212.
- Clinical and Laboratory Standards Institute (CLSI), 2020, Performance standards for antimicrobial susceptibility testing, Twenty-fifth informational supplement, Clinical and Laboratory Standards Institute, Wayne, PA, USA.
- Cooke M.D., 1976, Antibiotic resistance in coliform and faecal coliform bacteria from natural waters and effluents, *New Zealand Journal of Marine and Freshwater Research*, 10: 391-397.
<https://doi.org/10.1080/00288330.1976.9515625>
- Cortes-Sanchez A.D.J., Espinosa-Chaurand L.D., Diaz-Ramirez M., and Torres-Ochoa E., 2021, *Plesiomonas*: A review on food safety, fish-borne diseases and tilapia, *The Scientific World Journal*, Article ID 3119958: 10 pages.
<https://doi.org/10.1155/2021/3119958>
- Food and Agriculture Organization (FAO), 2013, FAO Fisheries and Aquaculture Department has published the Global Aquaculture Production Statistics for the year 2011.
- Food and Agriculture Organization (FAO), 2020, The state of world fisheries and aquaculture 2020: Sustainability in action.
- Jagger T.D., 2010, *Plesiomonas shigelloides*: A veterinary perspective, *Infectious Disease Review*, 2: 199-210.
- Janda J.M., Abbott S.L., and McIver C.J., 2016, *Plesiomonas shigelloides* revisited, *Clinical Microbiology Reviews*, 29: 349.
<https://doi.org/10.1128/CMR.00103-15>
- Jun J.W., Kim J.H., Choresca C.H., and Shin S.P., 2011, Isolation and molecular detection of *Plesiomonas shigelloides* containing tetA gene from Asian Arowana (*Scleropages formosus*) in a Korean aquarium, *African Journal of Microbiology*, 5: 5019-5021.
- Krovacek K., Eriksson L.M., González-Rey C., Rosinsky J., and Ciznar I., 2000, Isolation, biochemical and serological characterization of *Plesiomonas shigelloides* from freshwater in Northern Europe, *Comparative Immunology, Microbiology and Infectious Diseases*, 23: 45-51.
[https://doi.org/10.1016/S0147-9571\(99\)00058-2](https://doi.org/10.1016/S0147-9571(99)00058-2)
- Mohammed H.H., ElBanna N.I., Erdogan O., Aarattuthodi S., Tekedar H.C., Abdelhamed H., and Diaz-Delgado J., 2026, *Plesiomonas shigelloides* as an emerging pathogen in catfish aquaculture: A case from a South Texas commercial farm, *Microorganisms*, 14(1): 144.
<https://doi.org/10.3390/microorganisms14010144>
- Olusola S.E., and Olorunfemi B.V., 2017, Bioproductive effects of *Clarias gariepinus* fingerlings fed guava (*Psidium guajava*) leaves and drumstick (*Moringa oleifera*) leaves extracts supplemented diet, *Journal of Applied and Tropical Agriculture*, 22(2): 156-165.
- Omotayo A.M., Akegbejo-Samson Y., and Olaoye O.J., 2006, Fish production, preservation, processing and storage, Training Manual of the 2006 Joint Training of Fish Farmers in Epe, Lagos State Agricultural Media Resources and Extension Centre (AMREC), Federal University of Agriculture Abeokuta, Ogun State and BATN Foundation, Victoria Island, Lagos, pp. 19-20.
- Pakingking R., Palma P., and Usero R., 2015, Quantitative and qualitative analyses of the bacterial microbiota of tilapia (*Oreochromis niloticus*) cultured in earthen ponds in the Philippines, *World Journal of Microbiology and Biotechnology*, 31: 265-275.
<https://doi.org/10.1007/s11274-014-1758-1>