

**CHRIST**(DEEMED TO BE UNIVERSITY)
BANGALORE | DELHI NCR | PUNE

Notice for the PhD Viva Voce Examination

Ms Ashitha Raghu P K, Registration Number: 2071801, PhD Scholar at the Department of Life Sciences, School of Sciences, CHRIST (Deemed to be University) will defend her PhD thesis at the public viva-voce examination on Friday, 05 June 2026 at 11.30 am in Room No. 044, Ground Floor, R&D Block, CHRIST (Deemed to be University), Bengaluru - 560029, Karnataka, India.

- Title of the Thesis** : **Studies on the Impact of *Stevia rebaudiana* (Bertoni, 1899) Extract on Growth, Survival and Immune Modulation of *Oreochromis niloticus* (Linnaeus, 1758) Fingerlings**
- Discipline** : **Zoology**
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The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar (Academics)

Place: Bengaluru
Date: 27 May 2026

ABSTRACT

The present study investigates the effect of dietary supplementation of *Stevia rebaudiana* leaf extracts on growth parameters, biochemical profile, stress biomarker enzyme activity and immune response against *Aeromonas* species in *Oreochromis niloticus* fingerlings. Leaf extracts were obtained from dried *S. rebaudiana* using two different solvents, such as methanol (Mt) and ethanol (Et), by employing Soxhlet (SMt and SEt for Mt and Et, respectively) and maceration (MMt and MEt for Mt and Et, respectively) methods. This study quantified the phytochemicals, such as total phenolic content, flavonoid content and tannin content and analysed the antioxidant and antibacterial activity of all the extracts. Notably, MEt had an elevated level of phenolic, flavonoid and strong antioxidant activity. In antibacterial assays against *Aeromonas* strains, MEt showed the highest zone of inhibition (ZOI) for *Aeromonas salmonicida*. This study also demonstrates an environmentally friendly and low-cost fabrication of silver nanoparticles (AgNPs) using *S. rebaudiana* leaf extract and assesses the antibacterial activity against *A. salmonicida* and *A. hydrophila*. Biosynthesised AgNPs showed good antibacterial activity in vitro. The diet was formulated for *O. niloticus* for the feeding trial experiments. The experimental diets were designated as Dc, D1, D2, D3, D4 and D5 based on the incorporation of graded levels of MEt (0, 0.05, 0.1, 0.2, 0.5 and 1%, respectively). Additionally, the study also assessed the suitability of feed formulated with MEt extract of *Stevia* leaf as an aquaculture feed for *O. niloticus*. The results indicated that feed improved growth performance, survival, biochemical composition, regulated the stress enzyme level and improved disease resistance against *A. salmonicida*. The bioactive compounds of *Stevia* likely contributed to the enhanced immune response in fishes fed a *Stevia*-supplemented diet, and it is evident through less or no histopathological alterations after bacterial challenge.

Keywords: *Aquaculture, Stevia rebaudiana, Aeromonas, Antibacterial activity, phytochemicals, Silver nanoparticles, Oreochromis niloticus, Growth performance, Immunity*

Publications:

1. **Ashitha Raghu** and Krishnakumar Velayudhannair. Phytochemical Analysis and Antibacterial Potential of *Stevia rebaudiana* (Bertoni, 1899) Leaf Extracts against *Aeromonas* Species: Influence of Extraction Methods and Solvents in Aquaculture Applications. *Journal of Pure and Applied Microbiology*. 2023;17(4):2352-2366. Doi: 10.22207/JPAM.17.4.31
2. **Ashitha Raghu** and Krishnakumar Velayudhannair. *Stevia rebaudiana*-Mediated Synthesis of Silver Nanoparticles: An Eco-Friendly Approach for Combating Fish Bacterial Pathogens. *Gazzetta Medica Italiana – Arch Sci Med*. 2025; 183:000-000.DOI: 10.23736/S0393-3660.24.05510-4.