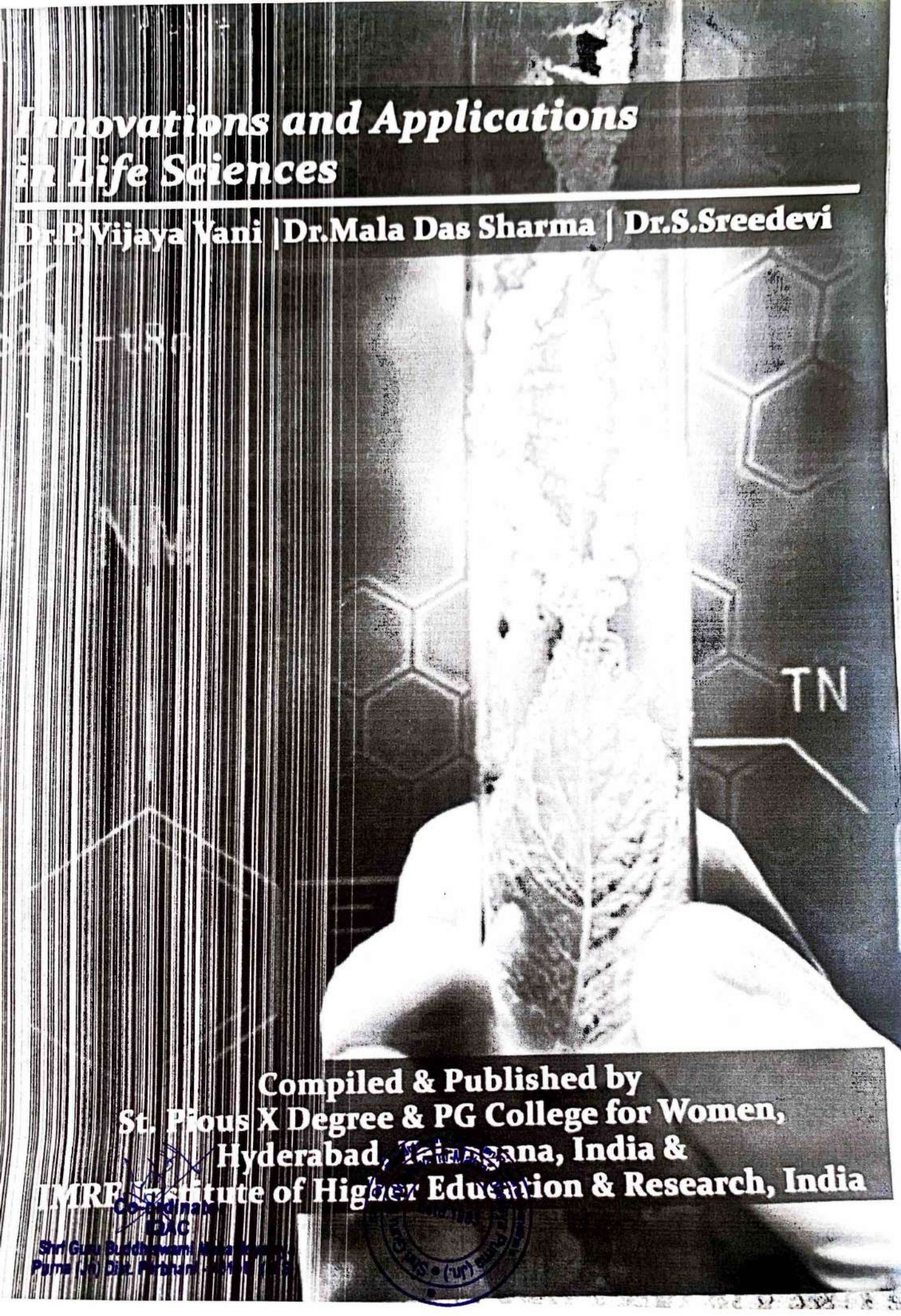
Innovations and Applications in Life Sciences

Dr.P.Vijaya Vani | Dr.Mala Das Sharma | Dr.S.Sreedevi



Compiled & Published by
St. Pious X Degree & PG College for Women,
Hyderabad, Telangana, India &
IMRF Institute of Higher Education & Research, India

CONTENTS

Co-ordinator
IQAC
Shri Guru Buddhiswami Mahavidyalaya
Purna (Jn) Dist. Parbhani - 431511 (M.S.)

Shri Guru Buddhiswami Shikshan Prasarak Sanstha's Shri Guru Buddhiswami Mahavidyalaya Purna (Jn.) Estd.1983

ISBN 978-93-86435-72-9

ISBN 978-93-86435-72-9

Chapter: 6

PROTEIN PROFILING OF PSEUDOMONAS ASSOCIATED WITH FISH PATHOGENS

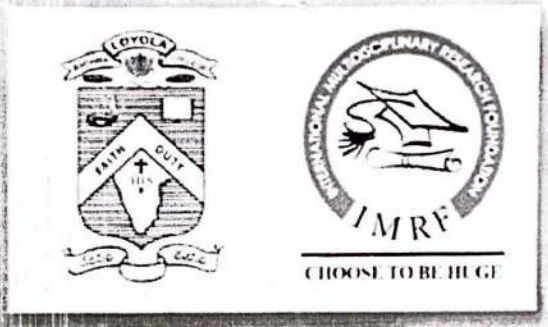
- *Ravi D.Barde, S. M. More*

Introduction: Pseudomonas sp. is one of significant fish pathogens among the etiological agent of bacterial fish diseases. The pathogen causes ulcer formation diseases together with ulcerative syndrome, tail and fin rot, gill rot and dropsy[1]. The bacterial pathogen has several modes to cause disease in their host. Adhering to the host and joining the host tissues are the most essential steps in commencing infections. Virulent bacteria secretes tissue degrading enzymes and toxins to evade the immune defense response of the host. Cell surface structure like pili works as adhesion factors for infection process as well as extracellular products have been studied widely in bacterial fish pathogens[2]. Several virulence factors have also been described for bacterial fish pathogens like EPS present in the capsule or lipopolysaccharides in cell wall are related to virulence in pathogens[3].

Proteins comprise 55% of the dry mass in bacterial cells and can be separated by electrophoretic techniques such as polyacrylamide gel electrophoresis (PAGE) of whole-cell soluble proteins to achieve a protein electrophoregram[4]. The electrophoretic protein patterns can be used to assess similarity among strains at species and subspecies levels. Also, protein profiles combined with computer-aided analysis have potential in phylogenetic and taxonomic studies. Separation of cellular proteins by electrophoresis is a sensitive technique that can provide information of strains at the sub species level. Total cell protein separation by SDS-PAGE was used in bacterial identification[5]. The cell envelope protein fraction had been used to characterize *Pseudomonas* spp. and to screen the bacteria from different source and locations[6]. This study was aimed to examine the degree of phenotypic and genotypic diversity within a selection of closely related *Pseudomonas* isolates sampled from fish.

Proceedings of the International Conference on Recent Trends in Botany, Zoology, Microbiology & Biotechnology - Andhra Loyola

Nov 01-02,2019



Organized by

Andhra Loyola College (Autonomous)
Vijayawada, Andhra Pradesh, India &
IMRF Institute of Higher Education & Research, India

Govt of Inida Approved Conference

Co-ordinator
IQAC
Shri Guru Buddhivani Mahavidyalaya
Purna Uni Dist Parbhani