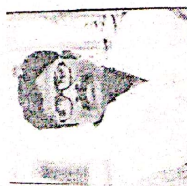
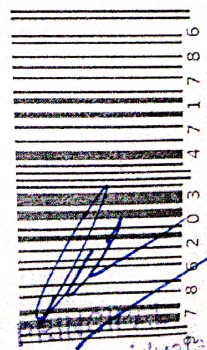


BOOK-21-72

The present study substantiate findings that prawn, *Macrobrachium kistnensis* when exposed to TBTCI lethal concentrations, biochemical constituents like carbohydrate, protein and lipid level decreased under stress condition. The decreases in glycogen content in all tested tissue might be due to increase in glycolysis by increase in phosphofruktose kinase activity and elevation of succinate and pyruvate dehydrogenase leading to anaerobic metabolism during anoxic stress condition caused by toxicant. The decline in total protein indicated that proteins were utilized in gluconeogenesis for the release of energy to mitigate the TBTCI stress condition produced keto acid to enter in TCA cycle. The depletion in lipid content during exposure of TBTCI might be due to its utilization in energy production by oxidation of lipids under the influence of lipase enzyme to derive fatty acid precursor for TCA cycle. Histopathological changes showed that the severity of damage is dose and time dependent. TBTCI induces the significant architectural changes in ovary and hepatopancreas of *Macrobrachium kistnensis*. Therefore the use and release of TBTCI in aquatic environment might be controlled.



Dr. Pravin Shamrao Kharat is the receiver of Rajiv Gandhi National Fellowship by U.G.C. and honoratory fellowship by AZI and ABRF. Two projects are sanctioned by D.S.T. and U.G.C. He published one reference book and national and international papers. Presently working as Assistant Professor in Zoology, Nutan Mahavidyaya, Selu, Dist Parbhani (M.S.)



Nutan Mahavidyaya  
SELU, Dist. Parbhani



LAP, LAMBERT  
Academic Publishing

Pravin Kharat

# TBTCI induces Reproductive and Biochemical changes in freshwater Prawn

*Macrobrachium kistnensis*, Impact of TBTCI





Pravin Kharat

TBTCL induces Reproductive and Biochemical changes in freshwater Prawn

FOR AUTHORIZED USE ONLY

PRINCIPAL  
Mutan Mahavidyalaya  
Selu, Nuzvid  
Andhra Pradesh



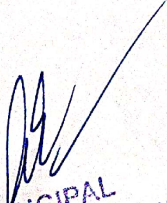


Pravin Kharat

# TBTCL induces Reproductive and Biochemical changes in freshwater Prawn

Macrobrachium kistnensis, Impact of TBTCL

FOR AUTHOR USE ONLY

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

LAP LAMBERT Academic Publishing







### Imprint

Any brand names and product names mentioned in this book are subject to trademark, brand or patent protection and are trademarks or registered trademarks of their respective holders. The use of brand names, product names, common names, trade names, product descriptions etc. even without a particular marking in this work is in no way to be construed to mean that such names may be regarded as unrestricted in respect of trademark and brand protection legislation and could thus be used by anyone.

Cover image: [www.ingimage.com](http://www.ingimage.com)

Publisher:

LAP LAMBERT Academic Publishing

is a trademark of

International Book Market Service Ltd., member of OmniScriptum Publishing Group

17 Meldrum Street, Beau Bassin 71504, Mauritius

Printed at: see last page

ISBN: 978-620-3-47178-6

Copyright © Pravin Kharat

Copyright © 2021 International Book Market Service Ltd., member of  
OmniScriptum Publishing Group

FOR AUTHOR USE ONLY

PRINCIPAL  
Nutan Mahavidyalaya  
Selu Dist. Parbhani





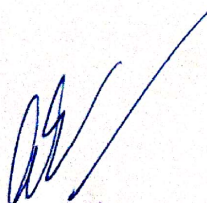


RESPECTFULLY  
REQUESTING TO SET UP BOARD

SHRI. SHAMRAO DAMODHARRAO KHARAT  
SOW. RADHABAI SHAMRAO KHARAT

AND

JIJU- BHUJANG B. KHANDARE  
DIDI- Dr. JYOTI B. KHANDARE

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani





## ACKNOWLEDGEMENTS

I take this opportunity to record my deep sense of gratitude to my research guide Dr. K. B. Shejule Reader, Department of Zoology Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for suggesting such an interesting topic and his constant encouragement, valuable suggestion, and guidance through out the period of my research work.

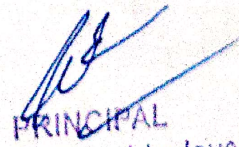
I am immensely thankful to Dr. Mrs. M.U. Patil, Professor and Head, Department of Zoology, Dr. Babasaheb Ambedkar Marathwada University Aurangabad for providing necessary laboratory facilities.

Sincerely I thanks to Dr. B. C. Ghoble Principal, Milind College of Science, Aurangabad and Karuna B. Ghoble for their valuable & timely suggestion.

I take genuine pleasure to express my deep feelings of gratitude to Dr. U. H. Mane, Dr. Y. K. Khillare, Dr. G. K. Kulkarni, Dr. B. V. Jadhav, Dr. A. N. Vedpathak, Dr. C. J. Hiware, Dr. S. P. Zambare, and Dr. Mrs. Wankhede, for their affection and selfless support.

It is my pleasure to express my thanks to all staff member of Zoology Department, Dr. Babasaheb Ambedkar Marathwada University Aurangabad.

It's my pleasure to thanks Dr. K. B. Shejule, Ex- D.S.W for providing me financial backup during my research work through "Earn and Learn Scheme" of this University.

  
PRINCIPAL  
Nutan Mahavidyalaya  
SOLAPUR Dist. Parbhani





My profound thanks to University Grants Commission for providing me "Rajiv Gandhi National Fellowship" during my research work.

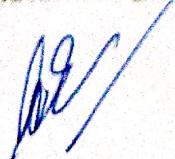
My sincere thanks to friends Mr. Pathan Tanveer, Mr. Shivaji Ubarhande, Dr. Rajkumar Pawar, Mr. Jitendra Jagtap, Mr. Yogesh Reddy, Mr. Rahul Kale, Mr. Bharat Gaikwad, Mr. Raju Bhalerao, Dr. Siddartha murumkar, Mr. Avinash Sonwane, Dr. Anil Kurhe Dr. Joshi P. P., Dr. Datta Rankhamb, Dr. V. V. Vaidya, Mr. S. D. Gulbhile, Mr. Ravi Gaikwad, Mr. Vasant Dongare, Mr. Santosh Latpate, Mr. Nitin Shinde, Mr. Deepak Gaikwad, Mr. Vishal Sarwade, Mr. Omprakash Jadhav, Mr. Anil Munde, Mr. Narayan Bhandari, and all friends for their active co-operation and help during my research work.

I am also thankful to Miss. Varsha Dabhade, Miss. Hemlata Dhavale, Miss. Laxmi Ghoble, Miss. Dipali Gajbhiye, Miss. Vandana Karn, Miss. Pradnyana Wankhede, Miss. Vinita, Miss. Maya Bhagat, and Miss. Shradha Bidwai.

No words could do justice to express my deepest sense of gratitude and respects towards my beloved parents and my Didi and Jiju who have been an inexhaustible source of inspiration to me and their blessing, love and affection have brought the cherished expectation true.

I find no words to express my feelings towards my brother Mr. Sachin Shamrao Kharat and my sister Sow. Vaishali and her husband Chandrashekhar Sirsat for their love and affection.

Last but not least thanks are also to Mr. Dhokane for effective photomicrography.

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani





I end by expressing endless thanks to all those whom I am able to recall here and also those whom I not able to recall and also those whom I might have left unknowingly.

Pravin Shamrao Kharat

FOR AUTHOR USE ONLY

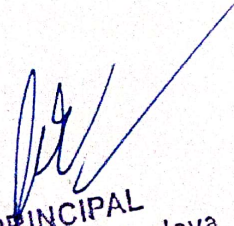
PRINCIPAL  
Nutan Mahavidyalaya  
Selu, Dist. Parbhani





## INDEX

SR. NO.	CHAPTER	PAGE NO.
1	INTRODUCTION	06-17
2	MATERIALS AND METHODS	18-20
3	RESULTS	21-44
4	DISCUSSION	45-60
5	REFERENCES	61-76

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani