

**Selection of high yielding elite chemotypes of paclitaxel
producing Himalayan yew (*Taxus wallichiana*) from different
geographical regions of the Himalayas**

**Thesis submitted for the partial fulfilment of the requirements for the
Degree of Doctor of Philosophy in Science**

By

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Declaration

I hereby declare that this thesis contains original research work carried out by me under the guidance of Dr. Abhijit Dey, Associate Professor, Department of Life sciences, Presidency University, Kolkata, India as part of the PhD programme.

All information in this document have been obtained and presented in accordance with academic rules and ethical conduct.

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I also declare that; this work has not been submitted for any degree either in part or in full to any other institute or University before.

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This is to certify that the thesis entitled “**Selection of high yielding elite chemotypes of paclitaxel producing Himalayan yew (*Taxus wallichiana*) from different geographical regions of the Himalayas**” submitted by Smt. Tuyelee Das, Registration Number **R-19RS218270205** and date of registration **23rd February, 2021**, in partial fulfilment of the requirements for the award of “**Doctor of Philosophy**”, is a record of bonafide research work carried out by her under my supervision. Neither her thesis nor any part of the thesis has been submitted for any degree/diploma or any other academic award anywhere before.

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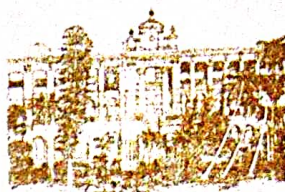
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LIST OF PUBLISHED RESEARCH PAPERS OUT OF THE RESEARCH WORK

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1. Das, T., Kumar Pandey, D., Shekhawat, M.S., Dey, A. and Malik, T., 2023. Quantification of Tissue-Specific Paclitaxel in Himalayan Yew Using HPTLC-Densitometric Analysis, Assessment of Toxicological Activity, and Tissue-Specific Evaluation of Antioxidant Activity. ACS omega, 8(35), pp.32108-32118.
2. Das, T., Nandy, S., Malik, T. and Dey, A., 2024. Quantitative assessment of paclitaxel in *Taxus wallichiana* zucc. Bark using HPTLC densitometry: Insights for germplasm selection and toxicological studies. Biocatalysis and Agricultural Biotechnology, p.103157.

Journals (Review paper)

3. Das, T., Anand, U., Pandey, S.K., Ashby Jr, C.R., Assaraf, Y.G., Chen, Z.S. and Dey, A., 2021. Therapeutic strategies to overcome taxane resistance in cancer. Drug Resistance Updates, 55, p.100754.

Book Chapters

1. Das, T., Nandy, S., Pandey, D.K., Al-Tawaha, A.R., Swamy, M.K., Kumar, V., Nongdam, P. and Dey, A., 2022. An update on paclitaxel treatment in breast cancer. Paclitaxel, pp.287-308.
2. Swamy, M.K., Das, T., Nandy, S., Mukherjee, A., Pandey, D.K. and Dey, A., 2022. Endophytes for the production of anticancer drug, paclitaxel. In Paclitaxel (pp. 203- 228). Academic Press.

Tables of Symbols, Units and Abbreviations

%	Percentage
>	Greater than
<	Less than
±	Plus, minus
°C	Degree Centigrade
°, ', "E	Degree, Minute, Second East
°, ', "N	Degree, Minute, Second North
µg	Micro gram
µm	Micro meter
µM	Micro mole
ng	Nano gram
<u>ABTS</u>	2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid
<u>ANOVA</u>	<u>A</u> nalysis of variance
<u>DPPH</u>	α,α -diphenyl- β -picrylhydrazyl
<u>LOD</u>	Limit of detection
<u>LOQ</u>	limit of quantification
<u>FRAP</u>	Ferric Reducing Antioxidant Power
<u>FC</u>	Folin–Ciocalteu
<u>HPTLC</u>	High-performance thin layer chromatography
<u>GA</u>	Gallic acid
<u>GC-MS</u>	Gas chromatography-mass spectrometry
<u>MI</u>	Mitotic index
<u>MNC</u>	Micronucleated cells
<u>PTX</u>	Paclitaxel
<u>UV-vis</u>	Ultraviolet-visible

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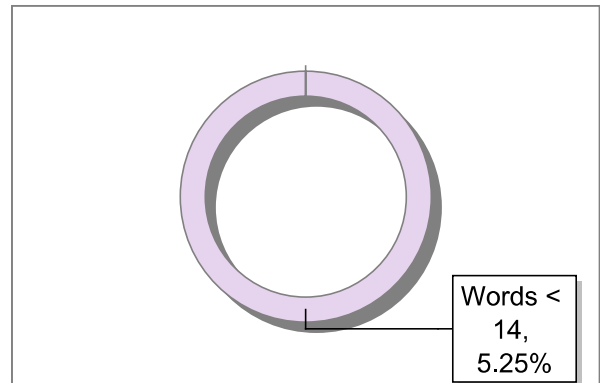
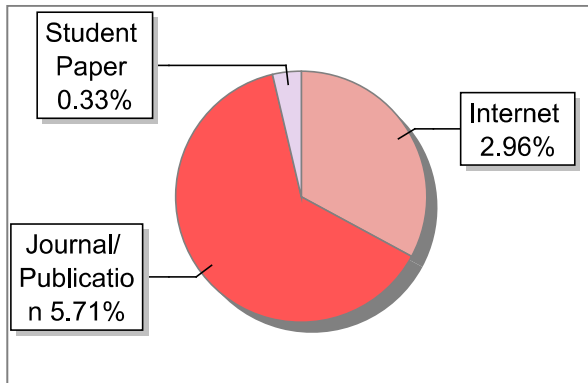
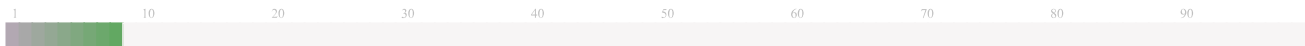
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