



## **Fatty Acid Composition and Antibacterial Activity of the Leaf Oil of *Kleinhoviahospita* Linn.**

**Milan C. Dey<sup>1</sup>, Raj N. Roy<sup>2</sup> and Amalendu Sinhababu<sup>1\*</sup>**

<sup>1</sup>Natural Product Laboratory, Department of Chemistry, The University of Burdwan, Burdwan- 713104, West Bengal, India

<sup>2</sup>Microbiology Research Laboratory, Department of Botany, Dr. B N Dutta Smriti Mahavidyalaya, Hatgobindapur, Burdwan-713407, West Bengal, India

**Abstract:**The fatty acid composition is utmost important for the quality assessment of leaves. The present study deals with the petroleum ether (60-80°C) extracted oil from the leaves of *Kleinhoviahospita* L. After saponification of leaf oil fatty acids were purified by preparative TLC and the fatty acid composition was determined for the first time by Gas Chromatography (GC) followed by GC-MS techniques after converting the fatty acids into its FAME. Analysis showed that the oil contained nineteen identified fatty acids, accounting 80.47% of the total fatty acids and thirteen unidentified compounds. The predominant fatty acids are palmitic acid (17.97%), linoleic acid (8.05%), oleic acid (7.87%) and stearic acid (7.79%) respectively. Antibacterial activity was also investigated which shows significant values. MICs of the oil against the gram positive (*Bacillus subtilis* and *Bacillus licheniformis*) and gram negative bacteria (*Escherichia coli* and *Acinetobacter junii*) were (61.75 µg/ml and 60.02 µg/ml) and (35.75 µg/ml and 38.04 µg/ml) respectively. Based on these results, it can be concluded that the *K. hospita* leaf oil may be applicable in medicine, agriculture and food preservation.

**Keywords:** *Kleinhoviahospita*, leaf oil, fatty acids, GC-MS, antibacterial activity.