

**Abstract 45 – Paper ID: 100****Comparative Pollen Load and Floral Diversity in *A. cerana* and *A. dorsata*  
Honeys of Manipur Valley**

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**Abstract**

Melissopalynology provides critical insights into the botanical origin and geographical authenticity of honey. The present study investigates the pollen composition and quantitative pollen load of honey samples collected from five valley districts of Manipur: Imphal East, Imphal West, Thoubal, Bishnupur, and Kakching, using microscopic pollen identification and haemocytometer-based pollen counting. The pollen concentration of ten honey samples representing *Apis cerana indica* (C1–C5) and *Apis dorsata* (D1–D5) showed considerable variation among districts. *Apis cerana indica* samples recorded counts ranging from low (C4: 4) to moderate (C2: 56), whereas *Apis dorsata* samples exhibited substantially higher pollen loads, with maximum counts in D3 (67). Microscopic examination of acetolysed residues revealed the presence of diverse pollen types, including *Ageratum*, *Lantana camara*, *Brassica* spp., *Oryza sativa*, *Melastoma*, *Mimosa*, *Eucalyptus*, and *Helianthus*, indicating a polyfloral nature of honey from the Manipur valley. District-wise pollen distribution suggested floral variability across the landscape, with Thoubal and Bishnupur showing richer pollen spectra compared to Kakching. *Apis dorsata* honeys consistently showed higher pollen density compared to *Apis cerana indica* honeys, indicating a wider foraging range and preference for pollen-rich floral sources. The study highlights significant botanical diversity in Manipur valley honeys and demonstrates that combining qualitative pollen identification with quantitative haemocytometer counting provides an effective tool to understand floral availability, foraging behaviour, and regional honey characteristics. These findings contribute foundation pollen data for Manipur and support future authentication and quality assessment of local honeys.

**Keywords:** Honey, *Apis cerana*, *Apis dorsata*, Haemocytometer, Manipur