
Morphometric study of variance in articulated dendritic phytolith wave lobes between selected species of Triticeae and Aveneae

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Résumé

A previous study explored the intraspecific morphometric variance among wave lobes of articulated dendritic phytoliths within selected species of cereals (Ball et al. 2016). This study was a first step towards understanding the variance between species. It demonstrated that there is significant variance between different accessions of the species and between the different bract types and inflorescences spike locations of the bracts within the accessions of the species. We concluded that when preparing reference data researchers should assure that they sample all bract types from all inflorescence spike locations from several accessions for each species in order to obtain reliable data. We further found that shape morphometries are more reliable and require a smaller sample size for statistical confidence than size morphometries when analyzing wave patterns in these taxa. Once we understood morphometric variance among wave lobes of articulated dendritic phytoliths *within* species our next step in developing this research tool was to study the variance *between* species. We will report our findings in this contribution. We began by expanding our reference collection. It now includes about 52 taxa distributed over 136 specimens. Many of the major cultivated cereal crops, their wild ancestors as well as some weeds are represented within the reference collection. Analysis of the ranges of means of the wave lobe morphometric variance for the studied taxa revealed a broad overlapping at the intra- and intergeneric levels. Still, some intervals in the minimal and maximal range of means tend to discriminate some taxa. These minimal and maximal intervals of range of means appear to be more diagnostic for the size morphometries than for the shapes measurements. In this contribution we will discuss some of the issues raised by these results as well as avenues to apply these findings to archaeological samples. Ball, T.B., Vrydaghs, L., Mercer, T., Pearce, M., Snyder, S., Lisztes-Szabó, Z. and Peto, A. 2016. A morphometric study of variance in articulated dendritic phytolith wave lobes within selected species of Triticeae and Aveneae. *Vegetation History and Archaeobotany*.

Mots-Clés: articulated dendritics, morphometry

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