|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Phytolith morphotype | Taxonomic attribution | GS1 | GS2 | GS 3 | GS4 | GS5 | GS6 | GS 7 | GS 8 | GS 9 | GS10 | GS11 | GS12 | GS13 | GS14 | GS15 | GS16 | GS17 | GS18 | GS19 | GS20 | GS21 | GS32 | COUNT | UBIQUITY |
| Silica skeletons | | | | | | | | | | | | | | | | | | | | | | | | | |
| Articulated quadrilobate | Paniceae  husk/inflorescence |  |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 5% |
| El. Echinate/Crenate/Dendriform | Poaceae husk/inflorescence |  |  |  |  |  |  |  |  | 1 | 1 |  |  |  |  |  | 1 |  |  |  |  |  |  | 3 | 5% |
| El. Psilate/sinuate | Poaceae leaf/culm | 3 |  |  |  |  | 1 |  |  | 1 |  | 1 |  |  |  |  | 2 | 1 |  | 1 |  |  |  | 10 | 32% |
| El. Irregular and others | Poaceae undetermined | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 5% |
| Opaque perforated platelets | Cf. Asteraceae | 1 |  | 1 | 1 | 3 | 1 |  |  |  |  | 1 |  | 1 | 1 |  |  |  |  |  |  |  | 3 | 13 | 41% |
| Undetermined multi-cell |  |  |  |  |  | 3 |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  | 4 | 9% |
| Single-cell phytolith | | | | | | | | | | | | | | | | | | | | | | | | | |
| Double-peak | Oryza husk | 62 | 1 |  |  | 3 | 1 | 1 |  | 8 | 37 |  |  |  |  |  | 9 | 1 |  | 1 |  | 1 | 3 | 128 | 55% |
| Oryza type bulliform | Oryza leaf | 3 |  |  |  |  |  | 4 |  |  | 1 |  |  |  |  |  | 4 | 6 |  |  |  |  | 2 | 20 | 32% |
| Scooped bilobate parallel | Ehrhartoideae |  |  |  |  |  | 2 |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  | 2 | 5 | 18% |
| Scooped bilobate | Ehrhartoideae |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  | 1 | 5% |
| Phragmite bulliform | Phragmite leaf | 1 |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 9% |
| Bilobate | Poaceae | 1 |  |  | 3 |  |  | 6 |  |  | 5 |  | 12 | 6 | 3 |  | 4 | 5 |  |  | 2 | 1 | 2 | 50 | 55% |
| Polylobate | Poaceae |  |  |  |  | 1 |  |  |  |  | 1 |  |  |  |  |  | 1 |  |  |  |  |  |  | 3 | 14% |
| Cross/quadra-lobate | Poaceae |  |  |  | 1 |  |  | 1 |  |  | 1 |  | 1 |  | 1 |  | 9 |  |  |  | 1 |  |  | 15 | 32% |
| Saddle | Poaceae |  |  |  |  |  | 1 | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 14% |
| Rondel | Poaceae |  |  |  |  |  |  | 1 |  |  |  |  | 4 |  |  |  |  |  |  |  |  |  | 2 | 7 | 14% |
| Common bulliform | Poaceae | 12 | 8 | 14 | 15 | 11 | 10 | 2 | 3 | 1 | 6 | 1 | 14 | 30 | 3 |  | 34 | 10 | 6 | 2 |  | 28 | 20 | 230 | 91% |
| Elongate psilate/sinuate | Poaceae | 48 | 47 | 44 | 57 | 36 | 57 | 58 | 12 | 15 | 41 |  | 96 | 69 | 1 |  | 63 | 29 | 10 | 6 | 7 | 17 | 14 | 727 | 91% |
| Rectangular/square | Poaceae | 20 | 15 | 25 | 28 | 2 | 42 | 5 | 1 | 6 | 19 | 3 | 6 | 19 | 5 | 6 | 60 | 56 | 8 | 1 | 5 | 45 | 28 | 405 | 100% |
| Papillae cell | Poaceae |  |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 5% |
| Tabular conical (Cyperaceae cone) | Cyperaceae |  |  |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 5% |
| Globular echinate | Arecaceae |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  | 5 |  |  |  |  |  |  | 6 | 9% |
| Hair cell |  |  |  |  |  |  |  |  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 5% |
| Scutiform |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  |  |  | 1 | 1 |  |  |  |  |  | 3 | 14% |
| Scalloped globular |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 2 | 9% |
| Globular echinate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  | 1 | 2 | 9% |
| Woody tissue |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  | 1 | 5% |
| TOTAL |  | 152 | 71 | 85 | 106 | 59 | 119 | 83 | 19 | 32 | 113 | 6 | 133 | 125 | 14 | 7 | 196 | 109 | 24 | 11 | 15 | 92 | 78 | **1649** |  |

**Table S3.** Phytolith data from Shangshan grinding stones.