**Supplementary materials:**

**Modeling the distribution of *Zanthoxylum armatum* in China with MaxEnt modeling**

Dan Ping Xua, Zhi Hang Zhuob, Ru Lin Wangc,d, Meng Yee, Biao Pua\*

a College of Food Science, Sichuan Agricultural University, 46 Xinkang Road, Yaan, 625014, China

b College of Tropical Agroforestry, Hainan University, 58 People's Avenue, Haikou, 570228, China

c College of Agronomy, Sichuan Agricultural University, 211 Huimin Road, Chengdu, 611130, China

d Sichuan Provincial Rural Economic Information Center, 6 Guanghua Village Street, Chengdu, 610072, China

e College of Forestry, Sichuan Agricultural University, 211 Huimin Road, Chengdu, 611130, China

\* Corresponding author, Biao Pu. College of Food Science, Sichuan Agricultural University, 46 Xin Kang Road, Yaan, 625014, China.

Tel: +86 13908160854

Email: pubiao2002@163.com

Legend: Table S1 List of location points of *Zanthoxylum armatum* used in MaxEnt model

**Table S1** List of location points of *Zanthoxylum armatum* used in MaxEnt model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Code | Location (Country/ Region) | Longitude | Latitude | sources |
| 1 | China | 103.1  | 30.0  | Field study |
| 2 | China | 103.2  | 27.6  | Field study |
| 3 | China | 102.6  | 28.8  | Field study |
| 4 | China | 106.0  | 32.3  | Field study |
| 5 | China | 107.1  | 31.7  | Field study |
| 6 | China | 107.2  | 31.5  | Field study |
| 7 | China | 104.9  | 31.3  | Field study |
| 8 | China | 102.9  | 30.0  | Field study |
| 9 | China | 103.5  | 30.0  | Field study |
| 10 | China | 103.3  | 27.7  | Field study |
| 11 | China | 106.5  | 30.6  | Field study |
| 12 | China | 104.4  | 29.9  | Field study |
| 13 | China | 106.8  | 30.9  | Field study |
| 14 | China | 105.6  | 32.2  | Field study |
| 15 | China | 104.5  | 30.8  | Field study |
| 16 | China | 104.8  | 29.2  | Field study |
| 17 | China | 106.5  | 30.7  | Field study |
| 18 | China | 105.0  | 29.3  | Field study |
| 19 | China | 106.9  | 30.5  | Field study |
| 20 | China | 105.3  | 28.9  | Field study |
| 21 | China | 107.0  | 31.4  | Field study |
| 22 | China | 107.2  | 31.6  | Field study |
| 23 | China | 107.4  | 31.8  | Field study |
| 24 | China | 107.0  | 31.4  | Field study |
| 25 | China | 103.4  | 29.9  | Field study |
| 26 | China | 102.8  | 27.7  | Field study |
| 27 | China | 101.7  | 27.5  | Field study |
| 28 | China | 104.5  | 32.4  | CVH |
| 29 | China | 107.9  | 31.9  | GBIF |
| 30 | China | 103.5  | 30.8  | GBIF |
| 31 | China | 102.5  | 28.6  | GBIF |
| 32 | China | 103.7  | 30.7  | CVH |
| 33 | China | 103.3  | 29.6  | CVH |
| 34 | China | 102.7  | 25.0  | Field study |
| 35 | China | 103.2  | 27.5  | Field study |
| 36 | China | 102.6  | 25.0  | GBIF |
| 37 | China | 101.0  | 22.8  | CVH |
| 38 | China | 100.2  | 26.9  | GBIF |
| 39 | China | 100.3  | 27.2  | CVH |
| 40 | China | 102.2  | 24.5  | CVH |
| 41 | China | 98.7  | 26.0  | GBIF |
| 42 | China | 101.3  | 21.9  | GBIF |
| 43 | China | 99.2  | 27.1  | GBIF |
| 44 | China | 99.0  | 27.7  | GBIF |
| 45 | China | 105.6  | 25.6  | Field study |
| 46 | China | 105.5  | 27.3  | CVH |
| 47 | China | 106.7  | 26.4  | CVH |
| 48 | China | 106.9  | 25.3  | GBIF |
| 49 | China | 104.9  | 25.1  | GBIF |
| 50 | China | 105.4  | 26.8  | GBIF |
| 51 | China | 106.8  | 25.2  | GBIF |
| 52 | China | 105.4  | 26.8  | GBIF |
| 53 | China | 106.8  | 25.4  | CVH |
| 54 | China | 109.1  | 26.2  | CVH |
| 55 | China | 106.1  | 25.2  | GBIF |
| 56 | China | 106.7  | 26.3  | GBIF |
| 57 | China | 108.7  | 27.9  | CVH |
| 58 | China | 106.2  | 29.1  | Field study |
| 59 | China | 106.3  | 29.2  | Field study |
| 60 | China | 109.6  | 31.4  | GBIF |
| 61 | China | 110.1  | 31.2  | CVH |
| 62 | China | 110.0  | 31.0  | CVH |
| 63 | China | 108.7  | 29.6  | CVH |
| 64 | China | 108.5  | 32.0  | GBIF |
| 65 | China | 107.2  | 29.1  | GBIF |
| 66 | China | 109.7  | 30.8  | GBIF |
| 67 | China | 109.5  | 31.6  | GBIF |
| 68 | China | 112.0  | 26.7  | GBIF |
| 69 | China | 111.1  | 26.4  | CVH |
| 70 | China | 111.6  | 27.3  | CVH |
| 71 | China | 112.9  | 28.0  | CVH |
| 72 | China | 112.9  | 27.9  | CVH |
| 73 | China | 111.1  | 26.6  | CVH |
| 74 | China | 111.0  | 25.1  | GBIF |
| 75 | China | 113.9  | 28.5  | GBIF |
| 76 | China | 110.5  | 28.8  | GBIF |
| 77 | China | 110.9  | 30.0  | GBIF |
| 78 | China | 109.9  | 26.9  | GBIF |
| 79 | China | 112.9  | 26.7  | GBIF |
| 80 | China | 110.6  | 27.1  | CVH |
| 81 | China | 109.7  | 26.6  | CVH |
| 82 | China | 109.8  | 29.7  | CVH |
| 83 | China | 110.6  | 29.3  | CVH |
| 84 | China | 110.8  | 26.4  | CVH |
| 85 | China | 109.8  | 27.2  | CVH |
| 86 | China | 109.5  | 28.8  | CVH |
| 87 | China | 111.9  | 25.6  | CVH |
| 88 | China | 120.5  | 31.3  | GBIF |
| 89 | China | 113.3  | 24.4  | CVH |
| 90 | China | 113.3  | 24.8  | CVH |
| 91 | China | 113.3  | 25.4  | GBIF |
| 92 | China | 114.2  | 24.3  | GBIF |
| 93 | China | 114.2  | 22.5  | CVH |
| 94 | China | 113.6  | 24.4  | CVH |
| 95 | China | 114.3  | 24.1  | CVH |
| 96 | China | 113.5  | 23.1  | GBIF |
| 97 | China | 112.3  | 23.1  | GBIF |
| 98 | China | 112.4  | 25.0  | GBIF |
| 99 | China | 114.1  | 25.1  | GBIF |
| 100 | China | 113.7  | 24.3  | GBIF |
| 101 | China | 117.5  | 40.4  | GBIF |
| 102 | China | 115.5  | 28.1  | CVH |
| 103 | China | 114.9  | 25.9  | CVH |
| 104 | China | 115.5  | 24.9  | CVH |
| 105 | China | 114.2  | 26.6  | CVH |
| 106 | China | 116.6  | 29.8  | CVH |
| 107 | China | 117.7  | 29.5  | CVH |
| 108 | China | 116.0  | 29.5  | CVH |
| 109 | China | 114.1  | 25.9  | GBIF |
| 110 | China | 119.2  | 27.9  | CVH |
| 111 | China | 120.1  | 30.2  | CVH |
| 112 | China | 119.6  | 28.0  | CVH |
| 113 | China | 121.0  | 29.2  | CVH |
| 114 | China | 111.9  | 33.4  | GBIF |
| 115 | China | 111.6  | 33.0  | CVH |
| 116 | China | 111.7  | 33.6  | GBIF |
| 117 | China | 112.4  | 33.6  | GBIF |
| 118 | China | 105.4  | 32.8  | GBIF |
| 119 | China | 104.7  | 32.9  | CVH |
| 120 | China | 104.4  | 32.9  | CVH |
| 121 | China | 107.5  | 33.8  | GBIF |
| 122 | China | 106.9  | 33.6  | GBIF |
| 123 | China | 110.6  | 33.5  | CVH |
| 124 | China | 108.1  | 33.5  | CVH |
| 125 | China | 108.7  | 33.6  | CVH |
| 126 | China | 108.2  | 33.0  | CVH |
| 127 | China | 109.2  | 32.4  | CVH |
| 128 | China | 107.8  | 34.2  | CVH |
| 129 | China | 110.3  | 25.3  | CVH |
| 130 | China | 110.3  | 25.1  | CVH |
| 131 | China | 110.4  | 24.2  | CVH |
| 132 | China | 110.8  | 25.7  | CVH |
| 133 | China | 109.2  | 25.0  | GBIF |
| 134 | China | 108.3  | 25.4  | GBIF |
| 135 | China | 110.4  | 24.6  | GBIF |
| 136 | China | 110.4  | 25.9  | CVH |
| 137 | China | 110.3  | 25.0  | CVH |
| 138 | China | 105.3  | 25.0  | CVH |
| 139 | China | 110.3  | 25.9  | CVH |
| 140 | China | 107.9  | 25.1  | CVH |
| 141 | China | 110.7  | 25.6  | CVH |
| 142 | China | 108.6  | 24.9  | GBIF |
| 143 | China | 109.1  | 24.8  | GBIF |
| 144 | China | 108.8  | 24.7  | GBIF |
| 145 | China | 111.6  | 24.4  | GBIF |
| 146 | China | 108.2  | 23.0  | GBIF |
| 147 | China | 110.3  | 25.1  | GBIF |
| 148 | China | 110.8  | 24.8  | GBIF |
| 149 | China | 110.7  | 22.9  | GBIF |
| 150 | China | 106.2  | 24.4  | GBIF |
| 151 | China | 110.3  | 25.0  | GBIF |
| 152 | China | 109.8  | 30.1  | CVH |
| 153 | China | 110.4  | 29.8  | CVH |
| 154 | China | 109.5  | 30.0  | CVH |
| 155 | China | 109.8  | 29.9  | CVH |
| 156 | China | 110.9  | 31.7  | CVH |
| 157 | China | 109.8  | 30.1  | CVH |
| 158 | China | 118.1  | 26.7  | CVH |
| 159 | China | 118.2  | 30.1  | CVH |
| 160 | China | 112.4  | 35.4  | CVH |
| 161 | China | 97.5  | 28.7  | CVH |
| 162 | China | 121.5  | 25.1  | CVH |
| 163 | China | 120.3  | 22.7  | CVH |
| 164 | Janan | 132.7  | 32.8  | GBIF |
| 165 | Janan | 132.7  | 33.1  | GBIF |
| 166 | Janan | 132.9  | 33.2  | GBIF |
| 167 | Janan | 133.2  | 33.2  | GBIF |
| 168 | Janan | 134.1  | 33.3  | GBIF |
| 169 | Janan | 133.0  | 33.4  | GBIF |
| 170 | Janan | 133.2  | 33.4  | GBIF |
| 171 | Janan | 133.3  | 33.5  | GBIF |
| 172 | Janan | 133.8  | 33.6  | GBIF |
| 173 | Janan | 133.3  | 33.6  | GBIF |
| 174 | Janan | 133.5  | 33.6  | GBIF |
| 175 | Janan | 133.7  | 33.6  | GBIF |
| 176 | Janan | 133.8  | 33.8  | GBIF |
| 177 | Janan | 133.4  | 33.8  | GBIF |
| 178 | Janan | 133.9  | 34.3  | GBIF |
| 179 | Janan | 134.1  | 34.4  | GBIF |
| 180 | Janan | 135.8  | 34.4  | GBIF |
| 181 | Janan | 135.7  | 34.4  | GBIF |
| 182 | Janan | 133.7  | 34.7  | GBIF |
| 183 | Janan | 134.1  | 34.7  | GBIF |
| 184 | Janan | 135.3  | 34.8  | GBIF |
| 185 | Janan | 135.1  | 34.8  | GBIF |
| 186 | Janan | 134.2  | 34.9  | GBIF |
| 187 | Janan | 134.0  | 34.9  | GBIF |
| 188 | Janan | 133.9  | 34.9  | GBIF |
| 189 | Janan | 133.8  | 34.9  | GBIF |
| 190 | Janan | 133.5  | 34.9  | GBIF |
| 191 | Janan | 134.4  | 35.0  | GBIF |
| 192 | Janan | 134.1  | 35.0  | GBIF |
| 193 | Janan | 134.3  | 35.0  | GBIF |
| 194 | Janan | 139.5  | 35.0  | GBIF |
| 195 | Janan | 134.0  | 35.0  | GBIF |
| 196 | Janan | 134.5  | 35.0  | GBIF |
| 197 | Janan | 137.3  | 35.1  | GBIF |
| 198 | Janan | 134.0  | 35.1  | GBIF |
| 199 | Janan | 133.8  | 35.1  | GBIF |
| 200 | Janan | 134.3  | 35.1  | GBIF |
| 201 | Janan | 137.2  | 35.2  | GBIF |
| 202 | Janan | 139.2  | 35.3  | GBIF |
| 203 | Janan | 139.1  | 35.3  | GBIF |
| 204 | Janan | 139.1  | 35.4  | GBIF |
| 205 | Janan | 139.3  | 35.4  | GBIF |
| 206 | Janan | 137.2  | 35.5  | GBIF |
| 207 | Janan | 139.3  | 35.5  | GBIF |
| 208 | Janan | 139.3  | 35.6  | GBIF |
| 209 | Janan | 139.2  | 35.6  | GBIF |
| 210 | Janan | 134.6  | 36.0  | GBIF |
| 211 | Janan | 139.6  | 36.0  | GBIF |
| 212 | Janan | 133.4  | 36.3  | GBIF |
| 213 | Janan | 139.6  | 36.5  | GBIF |
| 214 | Republic of Korea | 126.6  | 33.3  | GBIF |
| 215 | Republic of Korea | 126.5  | 33.3  | GBIF |
| 216 | Republic of Korea | 126.6  | 33.4  | GBIF |
| 217 | Republic of Korea | 126.5  | 34.2  | GBIF |
| 218 | Republic of Korea | 126.1  | 34.3  | GBIF |
| 219 | Republic of Korea | 126.8  | 34.4  | GBIF |
| 220 | Republic of Korea | 127.7  | 34.5  | GBIF |
| 221 | Republic of Korea | 126.6  | 34.5  | GBIF |
| 222 | Republic of Korea | 126.2  | 34.5  | GBIF |
| 223 | Republic of Korea | 125.8  | 34.6  | GBIF |
| 224 | Republic of Korea | 125.4  | 34.7  | GBIF |
| 225 | Republic of Korea | 126.4  | 34.8  | GBIF |
| 226 | Republic of Korea | 127.0  | 35.1  | GBIF |
| 227 | Republic of Korea | 129.0  | 35.2  | GBIF |
| 228 | Republic of Korea | 127.0  | 35.3  | GBIF |
| 229 | Republic of Korea | 129.2  | 35.4  | GBIF |
| 230 | Republic of Korea | 126.9  | 35.5  | GBIF |
| 231 | Republic of Korea | 126.5  | 35.6  | GBIF |
| 232 | Republic of Korea | 126.2  | 36.8  | GBIF |
| 233 | Republic of Korea | 129.4  | 37.1  | GBIF |
| 234 | Republic of Korea | 126.1  | 37.2  | GBIF |
| 235 | Nepal | 86.7  | 27.7  | GBIF |
| 236 | Nepal | 86.7  | 27.8  | GBIF |
| 237 | Nepal | 85.9  | 27.9  | GBIF |
| 238 | Nepal | 85.3  | 28.1  | GBIF |
| 239 | Nepal | 85.4  | 28.1  | GBIF |
| 240 | Nepal | 83.9  | 28.3  | GBIF |
| 241 | Nepal | 82.1  | 29.7  | GBIF |
| 242 | India | 78.4  | 30.9  | GBIF |
| 243 | India | 79.6  | 22.9  | GBIF |
| 244 | Pakistan | 73.3  | 33.3  | GBIF |
| 245 | Pakistan | 73.1  | 33.7  | GBIF |
| 246 | Pakistan | 74.1  | 33.8  | GBIF |
| 247 | Pakistan | 73.3  | 34.1  | GBIF |
| 248 | Pakistan | 73.2  | 34.2  | GBIF |
| 249 | Pakistan | 73.4  | 34.2  | GBIF |
| 250 | Pakistan | 71.6  | 34.3  | GBIF |
| 251 | Pakistan | 72.0  | 34.5  | GBIF |
| 252 | Pakistan | 72.5  | 35.2  | GBIF |
| 253 | Pakistan | 72.6  | 35.2  | GBIF |
| 254 | Pakistan | 72.7  | 35.6  | GBIF |
| 255 | Indonesia | 126.0  | 8.8  | GBIF |