

Appendix S3. Protected areas sampled for lichenized *Trebouxia*. NP, National Park; NR, Nature Reserve, RTC, Research and Training Center; MAT, mean annual temperature (BIO1); MAP, mean annual precipitation (BIO12); n, number of thalli with photobiont data. Most localities included multiple sampling sites; the geographic coordinates, MAP, and MAT are for the site with the most samples for each locality. Biome classification follows Mucina and Rutherford (2006); climate data are from WorldClim 2 (Fick and Hijmans, 2017). Full data for all samples and sites are available in Appendix S4. Note that the Table Mountain NP samples were separated into Table Mountain (n=8) and Cape peninsula (n=4) for ecological analyses.

| Country | Locality | Coordinates (lat, long) | Biome | MAT (°C) | MAP (mm) | n |
|-----------------|-------------------|----------------------------|-----------------|-------------|-------------|----|
| South Africa | Buffelskloof NR | -25.2992, 30.5103 | forest | 15.4 | 886 | 27 |
| | Table Mountain NP | -33.9878, 18.4247 | forest/fynbos | 15.9 | 622 | 12 |
| | Garden Route NP | -33.9863, 23.5444 | forest | 16.9 | 783 | 6 |
| | Highmoor NR | -29.3186, 29.6331 | grassland | 12.9 | 987 | 5 |
| | Karkloof NR | -29.3029, 30.2279 | forest | 15.3 | 869 | 3 |
| | Kruger NP | -24.9307, 31.6960 | savanna | 21.6 | 603 | 7 |
| | Namaqua NP | -30.1326, 17.6721 | succulent karoo | 18.5 | 134 | 10 |
| | Robberg NR | -34.1011, 23.3817 | fynbos | 17.1 | 762 | 11 |
| | Swartberg NR | -33.3634, 22.0656 | fynbos | 12.3 | 358 | 9 |
| | West Coast NP | -33.2092, 18.0897 | fynbos | 16.1 | 337 | 21 |
| Namibia | Dorob NP | -22.0228, 14.5734 | desert | 20.3 | 36 | 12 |
| | Gobabeb RTC | -23.5679, 15.2829 | desert | 20.8 | 48 | 1 |
| | Waterberg NP | -20.5055, 17.2420 | savanna | 19.8 | 421 | 15 |

References

- Fick, S. E., and R. J. Hijmans. 2017. WorldClim 2: new 1-km spatial resolution climate surfaces for global land areas. *International Journal of Climatology* 37: 4302–4315.
- Mucina, L., and M. C. Rutherford. [eds.] 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.