



PLANT DIVERSITY, BIOGEOGRAPHY AND EVOLUTION OF THE CAMPO RUPESTRE FLORA

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Most ecologists and evolutionary biologists are familiar with the astonishing species richness and endemism of the *fynbos* of the Cape Floristic Region and the ancient and unique flora of the *kwongan* of Western Australia. In fact, these regions share old, climatically-buffered, infertile landscapes (OCBILs) that are the basis of a general hypothesis to explain their richness and endemism. However, few ecologists are familiar with the *campo rupestre* of central and eastern Brazil, an extremely old mountaintop ecosystem that is both a museum of ancient lineages and a cradle of continuing diversification of endemic lineages. Diversification of *campo rupestre* lineages pre-dates diversification of lowland *cerrado* lineages by several million years, suggesting it was the first open vegetation in eastern South America. This vegetation comprises more than 5,000 plant species, nearly 14% of Brazil's plant diversity, in an area that corresponds to 0.78% of its surface. Here we tested five predictions of the OCBIL theory and show that *campo rupestre* is fully comparable to and remarkably convergent with both *fynbos* and *kwongan*, and fulfills the criteria for a classic OCBIL. We discuss how increasing threats to *campo rupestre* are compromising ecosystem services and argue for the implementation of more effective conservation and restoration.

Key-words biodiversity hotspot, *canga*, endemism, functional ecology, plant biogeography, OCBIL theory, nutrient-impooverished soils.