

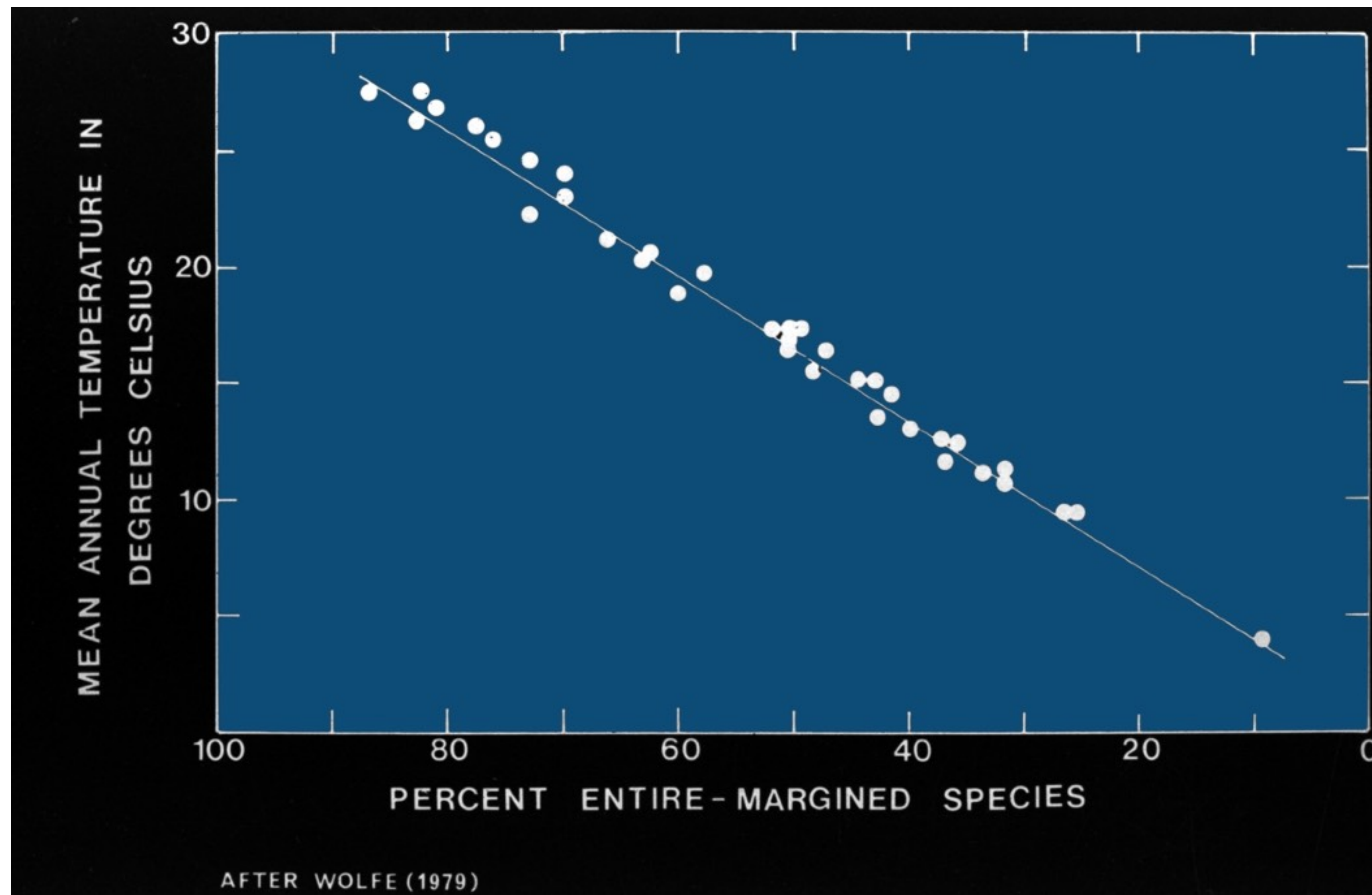
In environments where water supply is not limiting a much larger leaf surface area can be supported without desiccation. Leaf area indices (total leaf area/unit area of ground surface)  $> 12$  can be observed in rain forests. Individual leaf size range can be large.

However leaves also reflect the local microclimate: leaves at the top of the tree crown are exposed to high insolation and wind speeds so are smaller and thicker than leaves in the darker, more humid, understory.





Other aspects of leaf architecture vary with environment. As long ago as 1915 Bailey and Sinnott noted in *Science* that for woody dicots in North America the proportion of taxa bearing toothed versus entire margined leaves varies with mean annual temperature.



In 1979 Wolfe retested this relationship using leaves from S.E. Asia.

The relationship only works where water is not limiting, i.e. in humid to mesic forests.