Rationale: Because of the important role played by various pollens in the development of allergies and asthma, knowledge of their presence, distribution and local relevance is essential; however, most assessments either take specific localities out of the context of their respective regions, or they oversimplify by considering large land areas, such as an entire state or group of states, as if they were discrete units of nature. We selected individual states and divided them into subregions more appropriate and useful for understanding the biogeography of pollinosis.

Methods: Each state was divided into subregions based upon a combination of natural geography (physiographic or vegetational units) and artificial geography (i.e., metropolitan areas) to facilitate putting each allergic species into perspective. Distributional data for the important antigens were obtained from published botanical literature, online distributional data and personal field observations, and then presented in the appropriate column or row for the state.

Results: Each state or region is presented on a separate chart, with the presence or absence of a given species noted for each selected representative locality. If the presence of a species is either marginal (i.e., at the edge of its range) or occasional (due to the species' being relatively uncommon throughout that particular area), this has been indicated by a lighter shade of color in the chart.

Conclusions: This method of portraying the distributions of allergenic species may aid in selecting appropriate testing items for patients who travel extensively, or for practitioners having multiple practices or whose patients come from a wide geographic area.

The plant data charts may be viewed left-to-right (same plant species, variable locations) or up-and-down (same location, variable plant species). Changes in the presence or abundance of pollen species vary considerably from one species to another.

Dark colors indicate that the taxon grows in the area; light colors represent marginal or occasional presence; white indicates absence of the taxon listed. Where a taxon occurs in two or more states, scoring has been done independently, and genera shown for different states may include different species where individual species have not been listed.
Native, naturalized and cultivated populations were considered in the respective taxa. Data were obtained from literature sources, online databases and personal observations. The accompanying charts are intended to be illustrative rather than comprehensive.

The four states selected for this presentation represent different sections of the United States and each of these encompasses considerable physiographic and floristic diversity. In particular, two of them (Texas and California) are very large and exhibit a multitude of natural regions and considerable intrastate variation in allergenic species.

It is hoped that this study will provide a greater appreciation of intrastate diversity, and the authors emphasize that selected cities represent larger regions within a state (and often extending into other states) that are similar allergenically. Allergists are encouraged to consider the needs of patients whose routines take them into areas where other allergenic species are important.

Other states will be subjected to similar analysis in the future. Requests for further information and area-specific charts should be sent to bjacobson@greerlabs.com.
Statewide and Intrastate Assessments of Allergenic Tree, Grass and Weed Species
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