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KUMAMOTO, JUNGI AND RAINER W. SCORA. Botany and Plant Sciences, University of California, Riverside, CA 92521. - Composition of leaf oils in the genus *Parthenium* L. Compositae.

Monoterpenes of *Parthenium argentatum*, A. Gray; *P. confertum*, var. *lyratum*, A. Gray; *P. fruticosum*, Rollins; *P. hysterothorus*, A. Gray; *P. incanum*, H.B.K.; *P. schottii*, Greenm.; and *P. tomentosum*, Rollins have been identified by g.c. and g.c.-Ms. Only *P. argentatum* and *P. confertum* contain bornyl acetate, and this suggests a chemotaxonomic reason for a closer ancestral relationship between *P. argentatum*, the most advanced member of the subgenus *Parthenichaeta*, and *P. confertum*, a lower member of subgenus *Argyrochaeta* in the species relationship proposed by Rollins in 1950.

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MCCREA, KENNETH D. Biology Department, Bucknell University, Lewisburg, PA 17837. - Theoretical considerations of character displacement in plants.

Macrogeographic patterns of character displacement in plants may be different from those found in animals because of their differences in mobility. Highly mobile animals would be expected to show displacement throughout range overlap zones while entomophilous plant species are more likely to diverge only when growing closely adjacent, resulting in a mosaic pattern with divergence only in those local populations where the species are within pollinator range of one another. Models describing the mechanisms of character displacement indicate that the rate and magnitude of divergence in sympatry depend on several factors. The rate of divergence will depend on the heritability of the characters, the cost of interspecific pollinator visits, the initial difference between the species and the effectiveness of the characters at reducing the frequency of interspecific pollinator moves. The magnitude of divergence expected between species depends primarily on the duration of interspecific contact and the effectiveness of the characters at reducing hybridization. Computer simulations indicated that characters with a high effectiveness produced a greater initial rate of divergence, but less divergence after many generations of selection than did less effective characters.

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SANDERS, DONALD L.* and CURTIS CLARK. Biological Sciences, California State Polytechnic University, Pomona CA 91768. - Comparative morphology of the disk florets of *Enceliopsis* (Asteraceae: Heliantheae).

We have studied with light and scanning electron microscopy the disk florets and associated structures of all five taxa of *Enceliopsis*, a genus of herbaceous perennials of the Intermountain Region. All taxa have perfect disk florets, flattened achenes with a pappus of two awns, and glandular pales. They differ in the distribution of hairs and glands on the disk corolla and anthers, and in size and shape of the corolla; these differences help provide evidence of species boundaries and relationships among the taxa.

CONTRIBUTED PAPERS

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ALTERMANN, MICHÈLE and JOHN C. SEMPLE.* Department of Biology, University of Waterloo, Waterloo, Ontario, CANADA. - Leaf anatomy variation in *Aster* and related genera (Compositae-Astereae).

The leaf anatomy of nearly 100 species of *Aster*, *Baccharis*, *Corethrogyne*, *Erigeron*, *Lessingia*, *Leucelene*, *Macheranthera*, *Townsendia*, and *Virgulus* were determined and compared. No fundamental differences occurred between the lower base number and