

A possible realignment of Resia H.E. Moore (Gesneriaceae).

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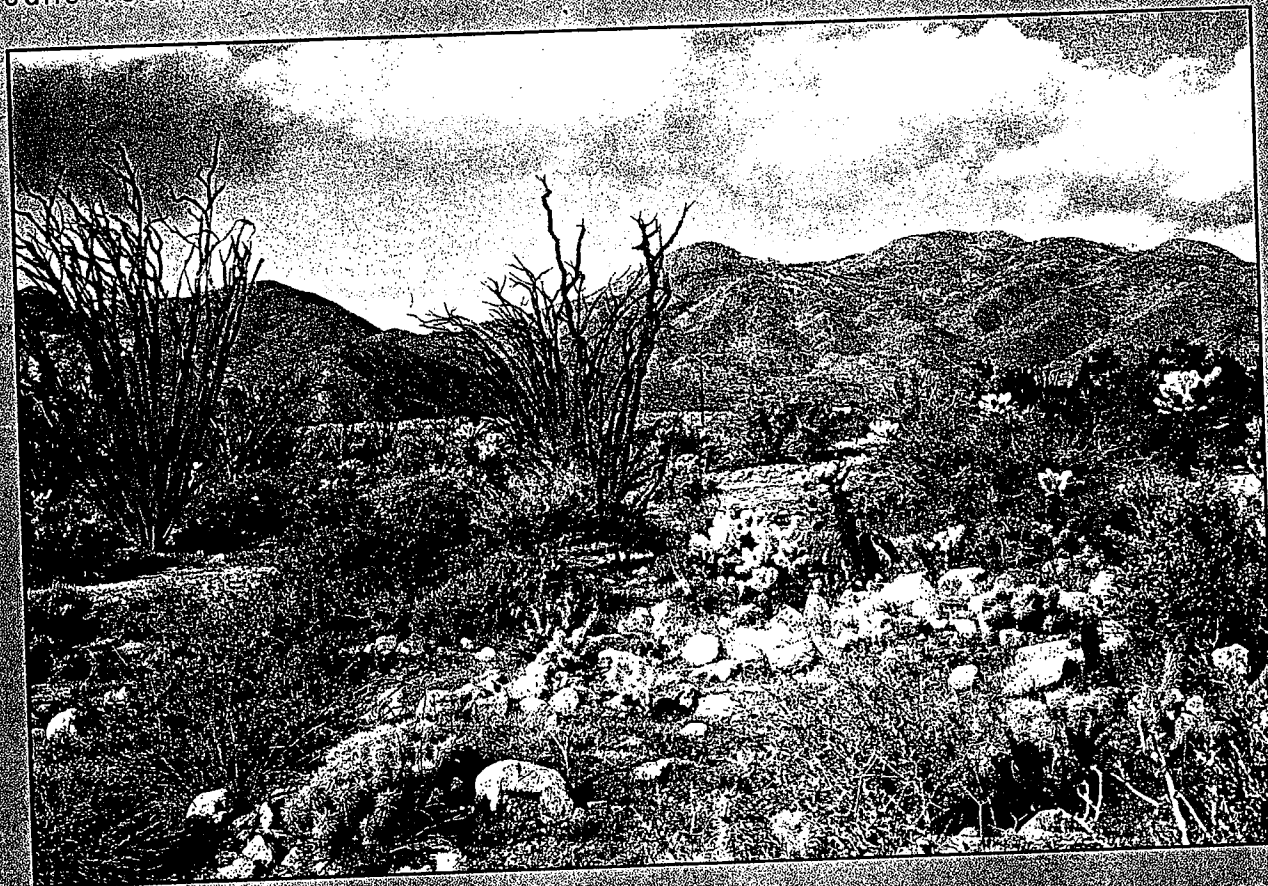
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ABSTRACTS

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- A possible realignment of *Resia* H.E. Moore (Gesneriaceae).

The rarely-collected *Resia* (Gesneriaceae) from Colombia and Venezuela heretofore has been included in the ebracteate section *Beslerieae* of the neotropical subfamily Gesnerioideae. However, recent collections of an apparently new species from Colombia that has bracteate inflorescences bring into question the placement of the genus in the family. *Resia*, a low-growing terrestrial herb or subshrub often pendent from damp cliff faces and having yellow, orange, or white corollas, has been suggested to be related to genera of similar habit, habitat, and rarity: *Napeanthus* Gardner, *Tylopsacas* Leeuwenb., or *Rhoogeton* Leeuwenb. A re-examination of *Resia* and other genera, as well as inclusion of the new species, has shown that *Resia* may be misplaced in *Beslerieae*.

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SMALL, ERNEST. Biological Resources Division, Centre for Land and Biological Resources Research, Agriculture and Agri-Food Canada, Central Experimental Farm, Ottawa, ON, Canada K1A 0C6 -
Co-adaptation of alfalfa flowers and alfalfa leafcutting bees.

Analysis of the literature revealed that *Megachile* is the bee genus most often collected on the alfalfa genus *Medicago*. Indeed, the alfalfa leafcutting bee (*Megachile rotundata*) is the most important commercial bee pollinator of alfalfa (*Medicago sativa*). Analysis of pollination showed that the bee exhibits stereotyped behavior, remarkably adapted to the explosive pollinating mechanism of the flower. To examine the limits of preference and architectural adaptation of the bee to a wide variety of floral types, the comparative attractiveness of 209 species of plants was examined by measuring visitation rates to bouquets under standardized conditions. The bees were attracted to only 21 species. Two floral features appeared to be related to bee visitation: a flower length less than 13.5 mm, irrespective of pollen and nectar accessibility; and a corolla tube 3 to 5 mm in length and up to 3 mm wide. The critical maximum length of 13.5 mm for the flower, and 5 mm length by 3 mm width for the floral tube, seem to be determined by three of the insect's body dimensions: the length, the combined head and extended mouthparts, and the head width, respectively.

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SMITH, E.B., D.J. CRAWFORD*, A. SAGASTEGUI A., AND I. SANCHEZ-VEGA. Department of Biological Sciences, University of Arkansas, Fayetteville, AR 72701, Department of Plant Biology, Ohio State University, Columbus, OH 43210, Universidad Antenor Orrego, Trujillo, Peru, and Universidad Nacional de Cajamarca, Cajamarca, Peru. -
Preliminary studies of relationships in *Coreopsis* sect. *Pseudoagarista* (Asteraceae) in the Andes.

One center of diversity of the genus *Coreopsis* is in the Andes, particularly the northern Andes in Peru where over 30 species have been described. All taxa are members of sect. *Pseudoagarista* and are united by features of the achenes. Species have been recognized almost totally on leaf characters, and past studies of the group have been restricted to morphology. Chromosome counts for 12 species show that diploids ($2n=26$), tetraploids and hexaploids exist in this group of *Coreopsis*. Both diploids and tetraploids have been documented in different populations of one species, *C. sherffii*. Interspecific crosses made in the greenhouse involving seven species show that certain species such as *C. connata* - *C. senaria* and *C. connata* - *C. obovatifolia* are highly cross compatible. By contrast, other species show little or no cross-compatibility. Enzyme electrophoresis reveals that certain taxa have very high genetic identities (above 0.90) whereas other species pairs have identities below 0.60. Morphological, chromosomal, and isozyme data indicate clearly that certain species such as *C. lopez - mirandae* and *C. woytkowskii* should be treated as a single species. An overview will be presented on how different data sets will be used to provide an improved taxonomic treatment for the group and to infer possible mechanisms of speciation.