

derived from primitive juncaceous stock, as proposed by Takhtajan. This topology is supported by a number of morphological features, including the presence of diffuse centromeres (a rare character among higher plants) in some members of both Juncaceae and Cyperaceae, and tetradinous pollen. Within the paraphyletic Juncaceae, there seems to be a clade of five derived genera (*Juncus*, *Marsippospermum*, *Rostkovia*, *Distichia*, and *Patosia*), two basal genera (*Priomium* and *Luzula*), and, in an intermediate position, *Oxychloë*, which forms the sister group of the derived Cyperaceae.

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POLSGROVE, RUSSELL L.¹, THOMAS MIONE*¹, AND GREGORY J. ANDERSON². ¹Biological Sciences, Central Connecticut State University, New Britain CT 06050 and ²Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs CT 06269 - Heteranthery and post-anthesis filament elongation: the floral biology of *Jaltomata repandidentata* (Solanaceae).

Jaltomata repandidentata is distributed from Mexico to Bolivia, and populations studied from Mexico, Nicaragua and Bolivia all exhibit the unique floral biology described below. In *J. repandidentata*, heteranthery is characterized by the presence of two different sizes of anthers in each flower. There are two large anthers of approximately equal size, and three smaller anthers of approximately equal size. The mean pollen quantity of large anthers (77,000) is significantly greater than the mean pollen quantity of small anthers (58,000). However, pollen of the two types of anthers does not differ in size nor quality (stainability). Stamens with larger anthers have filaments that are significantly longer than the filaments of the stamens having smaller anthers. *Jaltomata repandidentata* is protogynous, as are closely related congeners. During the first day the flower is open anthers remain undehiscent and all filaments are about 1 mm long. On the morning of the second day the flower is open filaments elongate four- to five-fold in a few hours, and only then do anthers dehisce. On the third day the filaments bend, bringing the anthers of the short stamens into contact with the stigma. Fruit is self-set prolifically. Because the larger, longer stamens exert 1 mm or so beyond the stigma, we speculate that the pollen of the larger anthers may be more likely to be exported, and the pollen of the smaller anthers appears more likely to be involved in selfing.