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***Jaltomata*: An Introduction, and Preliminary
Observations on the Red/Orange Floral Nectar**

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Jaltomata is a morphologically and ecologically diverse neotropical genus of about 30 species of both herbs and shrubs (Mione, 1992). Corollas may be rotate, campanulate or tubular, or even urn-shaped with a recurved limb. The genus has a broad altitudinal distribution, from near sea level to over 4000 m, and habitats vary from the fog-dependent coastal desert of Peru (lomas, see Rundel et al., 1991) to the moist and dry mountains. All 16 species tested are self-compatible (Mione and Coe, in press).

There are two monophyletic groups of *Jaltomata*. One group, here called "Mesoamerican", includes herbs with rotate corollas that produce clearish nectar in small amounts and, with few exceptions, purple/black fruits (certain accessions of two different Mexican species have green fruits; Mione and Bye, 1996). This group includes about 10 species, widely distributed from southeastern Arizona, U.S.A., to southern Bolivia, with the highest species diversity in Mexico.

The other monophyletic group, here called "South American," includes both herbs and shrubs that exhibit a broad range of corolla forms, and have orange or red fruits. These are distributed in the Andes from northern Venezuela through northern Bolivia (about 20 species), in the Greater Antilles (1 species), and on the Galápagos Islands (1 species). Corollas of the woody species tend to be campanulate or tubular. The tubular flowered species were formerly placed in the genus *Hebecladus*. This genus, however, was merged into *Jaltomata* based on morphological characters (Hunziker, 1979; Mione et

al., 1993), and chloroplast DNA characters (Mione et al., 1994). Within the "South American" group, there are two types of nectar: a) in some species clearish nectar is produced in small amounts, as in the "Mesoamerican" group, and b) in others red/orange nectar is produced in large volumes. Species having red/orange nectar are morphologically and ecologically diverse but are confined to the region extending from northern Peru through northern Bolivia.

Below, several of the species that produce red/orange nectar are discussed briefly, including distribution information and noteworthy morphological features. Floral observations were made on plants cultivated at the University of Connecticut greenhouse, and were from field-collected seed, unless indicated otherwise.

Jaltomata umbellata (R. & P.) Mione & M. Nee, a floriferous shrub of the Peruvian lomas, has small (6.5-8 mm long), tubular, cream-colored flowers. Bright red nectar partially to completely fills the corolla tube. The style protrudes from the otherwise closed corolla during the initial, pistillate phase of one to two days; during this time no reward is available to floral visitors. When the corolla opens, the anthers dehisce, with the stigma remaining exerted several mm beyond the anthers and presumably remaining receptive. Thus, dichogamy and herkogamy are evident, and both may promote outcrossing. This species was illustrated in Ruiz & Pavón's *Flora Peruviana et Chilensis* (1799, pl. 181, fig. a), and again, in Mione et al. (1993).

Jaltomata ventricosa (Baker) Mione, a floriferous shrub of northern Peru, has urn-shaped flowers that produce red/orange nectar in quantities sufficient for it to splash out when plants are disturbed, actually staining one's skin and clothing. This species is unique among *Jaltomata* in that the limb of the corolla is completely turned outward and curls back. *J. ventricosa* was described and illustrated in the 1860s; the original plate is now the lectotype (Mione et al., 1993). Collections of this species were not represented in the major

