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JALTOMATA STUDIES IN PERU, JANUARY 1998

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The research team included myself, professor Segundo Leiva G. (Universidad Antenor Orrego, Trujillo, Peru) and professor Leon Yacher (Southern Connecticut State University) who was born and raised in Peru. During this expedition at least three new-to-science species of the genus *Jaltomata* were collected. Prior to the trip I studied hundreds of herbarium specimens collected in Peru. Based on the collection locality information on the specimens I knew where to look for species that had been collected but had not yet been described by botanists.

Excursion I, from Lima to the small city of Canta and back, all in the department of Lima: In the vicinity of Canta we collected *J. dentata* (photoslide *609*) and *J. bicolor* (purple form, photoslides *612*, *617*). We were unable to find *J. contorta*, the type specimen of which was collected at the small town of Obrajillo (2,732 m; 76°36'33" W long., 11°26'40" S lat.) near Canta. The latter species was described in the late 1700s; a type specimen exists, but the species has not been collected again since it was described. It was unfortunate that we were unable to find *J. contorta*, as I am interested in knowing if this species is extant, and if so, if people eat the fruits. I had hoped to bring home seeds to grow plants of this species in the greenhouse, so I could study the basics of its reproductive biology and count its chromosomes. The protologue (original description) of *J. contorta* states that this species was described from cultivated plants (Mione, 1999), and given this, I wonder if there could have been a mistake made by the original botanists as to the location at which their seeds were collected.

Excursion II, from Lima up into the Andes toward La Oroya, and back; we remained within the dept. of Lima: We had a very productive few days of collecting specimens in this area, with a fantastic surprise (see next paragraph).

Mione and Coe (1992) treated all of the *Jaltomata* specimens of the Department of Lima, Peru, having one large flower per

inflorescence as *Jaltomata aspera*. During field work I was surprised and excited to find not one but two similar but distinct species where I expected to find *J. aspera*. Although similar, the two species can be distinguished by the following characters. Collection *615* has red nectar in the flowers, lacks gland-tipped hairs on the leaves, and has articulated pedicels. Collections *616*, *620* and *622* lack red nectar, have gland-tipped hairs, and lack articulation in the pedicels. The question that immediately arose was, which one of these species is actually *J. aspera*? To answer this I will need to study the type specimen of *J. aspera*. I have tried to borrow a type specimen of *J. aspera* from various herbaria, have not been successful, and will continue to write to European herbaria. One of these species is *J. aspera*, and the other may have as its basionym one of the following binomials: *Saracha ciliata*, *Saracha lacrima-virginis* or *Saracha urbaniana*. These two species may actually be distantly related within the genus, and may have converged on (independently evolved) superficial similarity and occupation of the same dry habitat. The on-going molecular systematics work will shed light on this exciting issue.

Prior to going to Peru I studied the type specimen of *Saracha* lobata and recognized it as a member of the genus *Jaltomata*. At that time I had to decide whether to transfer this species to *Jaltomata* or place this binomial in synonymy with another *Jaltomata* species. Without field work I was unable to choose one of these two courses of action. In Peru, when we visited the type locality of *S. lobata* we were pleased to find plants that match the type specimen of *S. lobata*. After studying these plants I concluded that they represent *Jaltomata dentata*, described decades earlier than *S. lobata*. Thus, this field work has allowed me to conclude that *S. lobata* is a synonym of *J. dentata*. To fix the taxonomy of the genus *Jaltomata* I work with dozens of Latin binomials; it was very satisfying to eliminate one of these (*Saracha lobata*) from further consideration.

Another goal I had was to visit the type locality of *Hebecladus propinquus* var. *parviflorus* at a place called Tambo de Viso, along the Lima to La Oroya highway, in the department of Lima. The type specimen of this variety lacks open flowers, perhaps contributing to