

There is a Beetle Hiding in the Mexican Grass

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This is a chronicle of a love affair with Mexico, Mexicans, and Mexican grasses. It began as long ago as the late 1930's and continues today. We (those wonderful grasses and I) have just celebrated our 43rd anniversary and are looking forward to many more.

Mexico lies north and south of the Tropic of Cancer and is a land of sandy seacoasts and snowy mountains; of cane fields and pine forests; of mesquite flats and oakwood hills. There are over 1,000 different species of grasses many of which are cosmopolitan, others exhibiting a high degree of individuality and endemism.

There have been many caught up into the same fascination. The first was a Frenchman named Fournier. I do not know how he came to be interested, or even if he ever saw Mexico. His book was published in 1886 in Paris, France. His 643 names in 126 genera bear little resemblance to species and generic names recognized today. Of his 23 "mexicana" species, about five survive today: *Brachypodium mexicana*, *Eragrostis mexicana*, *Zeugites mexicana*, *Metcalfia mexicana*, and *Euchlaena mexicana*. Because of seed mixups in

ancient European botanical gardens, *Muhlenbergia mexicana*, so well known in the United States, does not occur in Mexico and *Elymus mexicana* is a synonym of an Old World species not known anywhere in the New World.

Fournier organized many herbaria which belonged to Sunday botanists—amateurs who had botany as a hobby and collected mostly at exotic landmarks like Mount Orizaba on the boundary between Puebla and Veracruz or at health spas like Temascaltepec outside of Mexico City. Fournier's oversimplified key for 17 species of *Agrostis* is a century old headache but therein his grass collectors survive as *Agrostis berlandieri*, *Agrostis bourgei*, *Agrostis ghiesbreghtii*, *Agrostis liebmanii*, or *Agrostis schaffneri*, shadowy Old World names from an already dim past. His name is retained in the genus *Aristida* for *A. fournieriana*, a Mexican endemic.

Jumping from Fournier (1886) to Hitchcock (1913, Mexican Grasses in the United States National Herbarium) we find the Hitchcock list of 615 species in 130 genera is smaller, a remarkable circumstance considering 23 new species are described. Hitchcock (cf. *Aristida hitchcockiana* and *Digitaria hitchcockii*) did extensive personal collecting in Mexico, supplementing a growing fund of American collections. He, and his ever faithful lady Friday, Mrs. Agnes Chase (cf. *Bouteloua chasei*) built the Smithsonian Museum collection in Washington, D.C., into one of the world's primary centers for the study of Mexican grasses, a position maintained today first through the efforts of Jason Swallen (cf. *Swalleni-*

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Anthephora hermaphrodita



Aristida schiedeana



Andropogon brevifolius



Poa villaroeli

*Setaria adhaerans**Setariopsis latiglumis**Paspalum hintoni**Sporobolus atrovirens*

ana) and now through the research of Thomas Soderstrom (cf. *Soderstromia*).

Some of Hitchcock's contemporaries were Sunday botanists but a high percentage were serious collectors, and most of them were from the United States of America. The undisputed best of them all was a New Englander named Cyrus Guernsey Pringle (see Davis, Helen Burns, 1936, Life and work of Cyrus Guernsey Pringle, University Vermont 1-756.). Pringle singlehandedly changed the names of soon-to-be-forgotten railroad waystations into botanical immortality as the type locality for this grass species or that and so whether one is sure of the pronunciation or not he pours over maps looking for Tizpan, Tuxpan, Etzatlan, Uruapan, Irapuato, and many others, some ghost towns, some not. On at least one of his walks Pringle was shadowed by a curious bear, but this hardly deterred him from finding *Stipa pringlei*, *Muhlenbergia pringlei*, *Bouteloua pringlei*, *Brachypodium pringlei*, and *Peyritschia pringlei*.

G.B. Hinton, it is rumored, was a rich man. He hired collectors who scoured the hillsides for grasses; and their successes, if not his, resulted in *Paspalum hintoni*, *Aristida hintoni*, *Hilaria hintoni*, *Muhlenbergia hintoni*, and *Panicum hintoni*. Ynes Mexia, granddaughter of a Mexican general under President Santa Anna, would have scorned the thought of having someone else do her collecting, even after a Mexican fly laid eggs in her nose, eggs that later crawled back out as worms.

Pringle's dates of Mexican grass collections from 1885 through 1909 effectively bridge the time between Fournier (1886) and Hitchcock (1910 to 1936). My own collecting dates take up soon thereafter. I first landed in Mexico in July 1938 off a Grace Line freighter reaching from San Francisco to Concepcion, Chile, with many stops between including Mazatlan and Acapulco in Mexico. Here, going ashore by long boat, I made plant collections, including a few grasses, for one of the Thomas Harper Goodspeed botanical expeditions to the Andes.

After completing a Ph.D. (University of California, Berkeley) and settling in frigid Laramie, Wyoming, I found the Mexican climate looked over the years ever more inviting, even as the grasses became ever more interesting. In 1946 my first monograph of an essentially Mexican genus was completed (cf. Beetle, 1943, the North American Variations of *Distichlis spicata*). This was followed in 1948 by a monograph of the genus *Aegopogon*, whose center of diversification is Mexico.

Trips from Wyoming to Mexico became ever more frequent. They included excursions with University of Wyo-

ming range management students, vacations with family members drafted as collectors, and a sabbatical leave to the Instituto Tecnológico de Monterrey under the sponsorship of a Rockefeller research grant. The trips continued until all 28 states of Mexico had been explored at least once, many, like Chihuahua, with great intensity.

A collecting number series was started in 1962, M-1, and this series now stands at M-8000, practically all the numbers representing Mexican grass collections, and a few designating the type collection for a new Mexican grass, like *Paspalum guayanerum*, an annual from Sinaloa and Nayarit.

COTECOCA (Comision Tecnico Consultiva para la Determinacion Regional de los Coeficientes de Agostadero) is a growing federal organization with a group of professionals of high technical capability, who have penetrated all the states of Mexico and are single-handedly raising the level of practical and practicing range management. They have taken the initiative in planning a "Grasses of Mexico" to take a form comparable to that of Hitchcock's Manual of the Grasses of the United States. Since October of 1979 I have been privileged to take a leading role in coordinating the gathering of information on the identification, ecology, and distribution of the grasses of Mexico and the book, no longer a dream, is taking shape.

Recently Frank Gould, of Texas A. & M. University, completed a study of the grasses of Chiapas based principally on the collections of Breedlove. He also published a monograph of the mostly Mexican genus, *Bouteloua*, and has in many other ways contributed to our knowledge of Mexican grasses.

The Mexican grass fever is flourishing today. Among the current Americans are R. McVaugh (the grasses of Nueva Galicia), G. Davidse (*Lasiacis*), I. Wiggins (the grasses of Baja California), C. Reeder (*Muhlenbergia*), J. Reeder (dioecious grasses) and T. Soderstrom (the bamboos).

Among the active Mexicans are J. Valdes (grasses of Coahuila), A. Cuevas (the grasses of Nueva Leon), R. Rojas (the grasses of Veracruz), R. Guzman (the Maydeae), R. Martinez (the grasses of the state of Mexico), D. Johnson (the grasses of Sonora), and E. Hernandez-X (the ethnology of Mexican grasses).

The exploration of Mexico for grasses has undergone three phases, the first European (the Fournier period), the second based in the United States (the Hitchcock period), and now a third and current period based in Mexico upon a growing cadre of Mexican agrostologists.

Editor's Note: It would be great if all old range men and women could have as much fun in retirement as Professor Beetle while furthering the art and science of range management.