Matelea radiata Correll (Apocynaceae, Asclepiadoidiae) Rediscovered in South Texas

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ABSTRACT

A single plant of ***Matelea radiata*** **Correll** was found in Starr Co., Texas in Aug, 2005. Photos were taken and flowers placed in liquid for analysis. This is our first good look at this rare plant. Published on-line **www.phytologia.org** *Phytologia 96(1): 1-6 (Jan. 8, 2014).* ISSN 030319430.

KEY WORDS: *Matelea radiata*, Starr Co., TX, rediscovery.

INTRODUCTION

On Jun 24, 1909 the American botanist and author, Frederick Lewis Lewton, collected a specimen from a perennial vine near Falfurrias in what is now Brooks Co. Texas. The specimen (*F. L. Lewton 828*) made its way into the herbarium at the National Arboretum in Washington, D.C. and became NA no. 271771. However, it was not identified until 1965 when Donovan Stewart Correll described it as the new species, *Matelea radiata*. A rare plant, it may not have been seen since Lewton first collected it nearly a century ago. A specimen (*Runyon 2832* at TEX) collected by Robert Runyun on Jul 13, 1941 is disputed to be this species, as is *Wood 762* at TEX, collected by Archie Wood on Apr 4, 1966. Both are from Starr Co. Correll did not cite the Runyon specimen in his paper. The problem apparently arises because another species within the same range, *M. sagittifolia* (Gray) Woodson, is nearly identical in habit, though it has a shorter and entirely cup-shaped corona. The corona as described by Correll was not well understood. This paper should correct that problem.

OBSERVATIONS & CONCLUSIONS

While searching for *M. sagittifolia* in Aug, 2005 in Starr Co., TX, I came across a perennial vine twining over 2 meters up into a tree near Falcon Village on the Rio Grande River. Because of its habit with small sagittate leaves, I took it to be the species I was in search of. It had only a few flowers, but I was able to photograph several and put 2 in alcohol for later analysis under the microscope. It wasn't until 2013 when I saw photos of *M. sagittifolia* taken by W. R. Carr on the internet that I realized that I had something different.

The plant I found is a good match for the one described by Correll. It is a slender, twining vine with small sagittate leaves, and has the flowers mostly solitary in the leaf axils on a very short peduncle. But most notably it has ***long, oblong-quadrate coronal appendages***, that are ***'broadly concave-emarginate at the truncate apex, with a flange-like keel arising at the base on the ventral surface and often extending to well above the middle.'*** Correll described the corolla as 'spreading-radiate,' but he was describing pressed flowers. On the living flowers the corolla does not open so far as to be radiate, but is more campanulate in general form. There

is a fine drawing of the plant in RARE PLANTS OF TEXAS by Linny Heagy made from the holotype and shows the flowers and the coronas pressed flat and radiate. On living flowers the corona is an erect & deeply 5-cleft cylinder, very distinctive and unlike any other *Matelea* native to the U.S. A feature that Correll missed is the conical stigma. On most other U.S. species of *Matelea* the stigmas are flat-concave or slightly convex. The stigma on *M. cynanchoides* is closest to this one, being convex. The pollinarium is typical of the genus in the U.S.

ACKNOWLEDGMENTS

I extend my gratitude to Dana M. Price, Chris Best, and to Tom & Elena Patterson, without whose assistance I would not have been in South Texas to find the plant; and to W. R. Carr whose photos of *M. sagittifolia* on the LBJ Wildflower site called my attention to my error in identification.

LITERATURE CITED

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Figure 1. Flower of *Matelea radiata* with two petals removed to show the erect-columnar corona. Insert shows the pollinarium (about 1 mm long). Photo by the author from a flower in liquid. The entire flower is about 1 cm long.

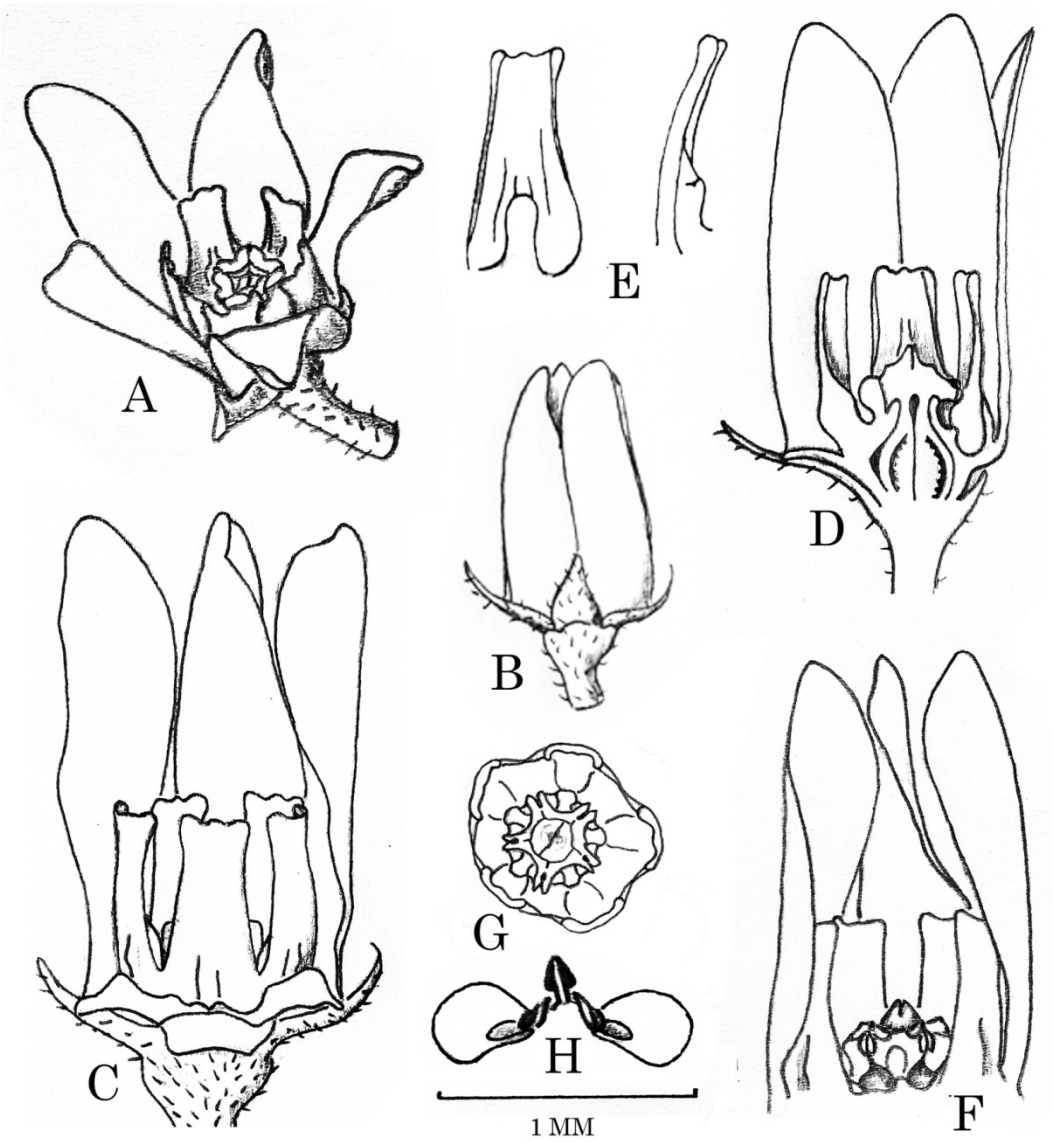

Figure 2. *Matelea radiata* Correll. A, open flower; B, bud; C, flower with two petals and a sepal removed to show the erect-columnar corona; D, flower in radial section; E, coronal segments in ventral & lateral views; F, flower cut away to show the gynostegium with conical stigma; G, gynostegium from above; H, pollinarium. From a flower in alcohol collected by the author at the site.

Figure 3. Photo of a living plant with one open flower and one closed flower. Taken by the author at the site.

Figure 4. Photo of a fruit taken by the author at the site.