

# *Jatropha ciliata* (Euphorbiaceae), A New Record for Veracruz, México

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## INTRODUCTION

The genus *Jatropha* L. comprises between 165-175 species distributed in arid, semi arid or sub humid areas of America, Africa, Arabic peninsula, India and Pacific Islands (Dehgan & Webster, 1979). A more recent estimation by Govaerts et al., 2000) gives the figure of 186 species. In Mexico according to Dehgan & Webster (1979), 32 species occurs, however, after 1979 some new species were described by Jimenez & Contreras (1981), Perez-Jimenez (1982), Lott (1984), Jimenez (1985, 1986), Jimenez & Martinez (1991) and Jimenez (1992) added 9 taxa that came out with 41 species; later on, Jimenez & Vega-Flores(2011) described *Jatropha mirandana*. Currently are known 46 species of *Jatropha*, of which 35 are endemic to the country (Jimenez& Martinez, 2004).

The following 49 species of *Jatropha* have been reported from Mexico (Fresnedo & Orozco, 2013):

- 1.- *Jatropha alamanii* Muell. Arg.
- 2.- *J. andrieuxii* Muell. Arg.
- 3.- *J. barlettii* Wilbur
- 4.- *J. bullockii* E. J. Lott
- 5.- *J. cardiophylla* (Toor.) Muell. Arg.
- 6.- *J. cathartica* Teran et Berland.
- 7.- *J. chamelensis* Prez-Jim.
- 8.- *J. ciliata* Sesse ex Cerv.

- 9.- *J. cinerea* (Ortega) Muell. Arg.
- 10.- *J. clarae-hildae* Fern.-Casas
- 11.- *J. conzattii* J. Jimenez Ram.
- 12.- *J. contrerasii* J. Jimenez Ram. & M. Martinez Gordillo
- 13.- *J. cordata* (Ortega) Muell. Arg.
- 14.- *J. cuneata* Wiggins & Rollins
- 15.- *J. curcas* L.
- 16.- *J. deghanii* J. Jimenez Ram.
- 17.- *J. dioica* Sesse
- 18.- *J. elbae* J. Jimenez Ram.
- 19.- *J. fremontoides* Standl.
- 20.- *J. galvanii* J. Jimenez Ram. & L. M. Contr. Jim.
- 21.- *J. gaumeri* Greenm.
- 22.- *J. giffordiana* Dehgan & G. L. Webster
- 23.- *J. gossypifolia* L.
- 24.- *J. hintonii* Wilbur
- 25.- *J. jaimelijimenezii* V. W. Steinm.
- 26.- *J. krusei* J. Jimenez Ram. & M. Martinez-Gordillo
- 27.- *J. macrorhiza* Benth.
- 28.- *J. malacophylla* Standl.
- 29.- *J. mcvaughii* Dehgan & G. L. Webster
- 30.- *J. moranii* Dehgan & G. L. Webster
- 31.- *J. multifida* L.
- 32.- *J. neopauciflora* Pax.
- 33.- *J. oaxacana* J. Jimenez Ram. & R. Torres
- 34.- *J. ortegae* Standl.
- 35.- *J. peltata* Sese
- 36.- *J. pereziae* J. Jimenez Ram.
- 37.- *J. podagrica* Hook.
- 38.- *J. pseudocurcas* Muell. Arg.
- 39.- *J. purpurea* Rose
- 39.- *J. riojae* Miranda
- 40.- *J. rufescens* Brandegee
- 41.- *J. rzedowski* J. Jimenez Ram.
- 42.- *J. sotoi-nunyezii* Fern. Casas
- 43.- *J. standleyii* Steyerl.
- 44.- *J. stephanii* J. Jimenez Ram. & M- Martinez Gordillo
- 45.- *J. sympetala* S. F. Blake et Standl.
- 46.- *J. tehuantepecana* J. Jimenez Ram. & A. Campos Vilb.
- 47.- *J. tlacozotitlanensis* J. Jimenez Ram.
- 48.- *J. vernicosa* Brandegee
- 49.- *J. websteri* J. Jimenez Ram.

During many field trips carried out by the authors in the last five years, in the semi-arid region of the Acultzingo and Maltrata canyons, in the central part of Veracruz state, Eastern Mexico, we have found several new records for the flora of Veracruz; such as:

- 1.- *Agave ghiesbregtii* Lem. Ex Jacobi
- 2.- *Agave potatorum* Zucc.
- 3.- *Dasyilirion serratifolium* (Karw. ex Schult. f.) Zucc.
- 4.- *Bursera aspleniifolia* Brandegee
- 5.- *Bursera copallifera* (DC.) Bullock
- 6.- *Bursera schlechtendalii* Engl.
- 7.- *Comarostaphylis polifolia* (Kunth) Zucc. ex Klotzsch subsp. *Polifolia*
- 8.- *Euphorbia radians* Benth.
- 9.- *Jatropha ciliata* Sesse ex Cerv.
- 10.- *Tigridia galanthoides* Molseed.
- 11.- *Gaudichaudia galeottiana* (Nied.) Chodat
- 12.- *Gaudichaudia implexa* S.L. Jessup.
- 13.- *Ceiba aesculifolia* subsp. *parvifolia* (Rose) P.E. Gibbs et Semir
- 14.- *Agonandra racemosa* (DC.) Standl
- 15.- *Dichromanthus cinnabarinus* subsp. *galeottianum* (Schltr.) Soto Arenas y Salazar
- 16.- *Silvia prostrata* (Kunth) Benth.
- 17.- *Russelia obtusata* S.F. Blake.
18. - *Lindleya mespiloides* Kunth.

These novelties, have previously been reported in a paper published by Rivera *et al.* (2015) that came out in Spanish language.

So the aim of a series of papers from now on is to present individual information in English language of the species that are qualified as succulent plants, namely:

*Agave potatorum* Zucc., *Agave ghiesbregtii* Lem. Ex Jacobi, *Dasyilirion serratifolium* (Karw. ex Schult. f.) Zucc., *Euphorbia radians* Benth. and *Jatropha ciliata* Sesse ex Cerv. We will start it out with *Jatropha ciliata*.

## BACKGROUND

We have had interest in Euphorbiaceae (the spurge family) over several years now, therefore we have published some articles on the Mexican Euphorbiaceae, mostly with Burl L. Mostul, from Portland, Oregon, USA, namely:

Chazaro & Mostul 1998 (on *Euphorbia tanquahuete* and *E. calyculata*); Chazaro, Valencia & Mostul. 2000 (on *Jatropha chamelensis*); Chazaro & Valencia 2000 (on *Jatropha bullockii*); Chazaro & Mostul 2009 and Chazaro, Mostul & Valencia 2010 (on *Euphorbia macvaughii*); Chazaro & Mostul. 2011 (on *Euphorbia pteroneura*); Chazaro, Valencia & Lopez 2012 (on *Jatropha deghanii*) and Chazaro, López & Mostul. 2011. (on *Euphorbia tanquahuete*).



*Jatropha ciliata* in habitat

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*Jatropha ciliata*

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## RESULTS

No information on jatrophas of Veracruz state was found by us except that Sosa & Gomez-Pompa (1994) reported for this state the following 11 species:

- 1.- *Jatropha curcas* L.
- 2.- *J. gossypifolia* L.
- 3.- *J. herbacea* L. (valid name is now *Cnidoscolus urens* (L.) Arthur).
- 4.- *J. kunthiana* Muell. Arg. (valid name is now *Cnidoscolus kunthiana* (Muell. Arg.) Pax & Hoffman)
- 5.- *J. liebmannii* Muell. Arg. (valid name is now *Cnidoscolus liebmannii* (Muell. Arg.) Lundell)
- 6.- *J. longipedunculata* Brandeg. (now *Cnidoscolus aconitifolius* (Mill.) I. M. Johnst.
- 7.- *J. multifida* L.-cultivated.
- 8.- *J. podagrica* L.- cultivated
- 9.- *J. pseudocurcas* Muell. Arg.- cultivated
- 10.- *J. spathulata* (Ortega) Muell. Arg. (now *J. dioica* Sesse)
- 11.- *J. urens* L. (now *Cnidoscolus urens*).

However, we must mention that of these 11 names, as wild plants, only 3 are now valid names (*J. curcas*, *J. gossypifolia* and *J. dioica*), *J. multifida*, *J. podagrica* and *J. pseudocurcas* are known as cultivated plants while *J. herbacea*, *J. kunthiana*, *J. liebmannii*, *J. longipedunculata* and *J. urens*, were transferred to *Cnidoscolus* genus)

### *JATROPHA CILIATA* SESSE EX CERV.

SYNONYM: *JATROPHA OLIVACEA* MUELL. ARG.

Shrub 1-4 m high, somewhat glaucous, almost glabrous, although the new shoots and inflorescences tend to present pubescence, fleshy, fragile, with watery, colourless latex; alternate leaves, petioles of the same length than the blades, broad, heart-shaped, 5-25 cm long, almost entire or 3-5 lobed, margins lobed or dentate, nervatures palmate, conspicuous on both sides, sometimes pubescent, dichotomous inflorescences on long peduncles, male flowers with a calyx 3 mm long, united at the base, corolla bell-shaped, ca. 8 mm long, whitish, 10 stamens, ones longer than others, female flowers few, with calyx and corolla the same dimension of the male flowers; fruit a capsule 1 cm long (Rzedowski & Rzedowski, 1985). Cyrus G. Pringle, the famous american plant collector found it in the hills near of Ixtapalapa, in the valley of Mexico (and now part of Mexico City, Distrito Federal) in 1896, however in 1915 the german botanist Karl Friedrich Reiche could not find there, but mentioned that at Peñon Viejo was the only and last locality at the Valley of Mexico, where it is extinct now (Rzedowski & Rzedowski, 1985).

**Distribution:** endemic to Mexico, previously known from the states of Distrito Federal, state of México, Morelos, Puebla and Oaxaca (Rodríguez *et al.*, 2009; Rzedowski *et al.*, 2001).

Now found by us at the municipality of Acultzingo, where it is restricted at the lower part of the Cretaceous limestone hills. Together with *Euphorbia radians*, this species is endangered to disappear in the area due to the extensive agriculture practice in Acultzingo valley. However, *Jatropha ciliata* tends to form colonies that apparently are interconnected by rhizomes.

## VOUCHER SPECIMENS

México, Veracruz, Municipality of Acultzingo, Cerro Xochío, 1 km at N of village Puente de Guadalupe, Alt. 1450 masl. 18°45'19.3" N, 97°14'45.8" W. 27 may 2012. Cols. M. J. Cházaro B., H. Oliva R. y L. Escandón H. 10, 314 (Herbarium CORU); base of cerro Xochío, 700 masl, at NW village Sierra de Agua, before crossing the railroad. Alt. 1450 m. 18°45'18" N, 97°14'46" W. 16 may 2014. Cols. A. F. Vargas R., J. E. Rivera H., M. J. Cházaro B., J. Reyes S., G. Torres C. and L. Escandón H. 1, 168 (Herbaria CORU, MEXU, XAL, FCME); spot Peña Roja, 1.2 W of village Próspero Pineda, Alt. 1590 m. 18°44'42" N, 97°16'01" W. 21 july 2014. Cols. J. E. Rivera H., A. F. Vargas R., G. Alcántara S., O. Cid M. y S. Morales J. 6, 218 (CORU).

## THE DESCRIPTORS

### VICENTE CERVANTES (1755-1829).

Spanish pharmaceutic and botanist, a member of the Royal Botanical Expedition to New Spain, lead by the also Spanish physician Martin Sesse, from 1788 on, he was in charge to create and be director of the botanical garden at Mexico City, then capital of New Spain, and also the first professor of botany class at the Royal and Pontifical University of Mexico. He collected around Mexico City and formed the first Mexican Institutional herbarium, although unfortunately mostly of pieces were lost. Some of his specimens are deposited at:

BR- Botanical Garden of Brussels, Belgium.

MA- Botanical Garden of Madrid, Spain.

MEXU- National Autonomous University of Mexico Herbarium, Mexico City.

He described 13 new species of Mexican flowering plants in the book: "Novorum vegetabilium descriptiones" by Pablo De la Llave and J. Jose Martinez de Lexarza (Rzedowski *et al.* 2009).

### MARTIN DE SESSE Y LACASTA (1751-1808).

Spanish Physician and botanist who came to Mexico (then New Spain) leading the Royal Botanical Expedition sent by the Felipe II King of Spain, and stayed in the country from 1787 until 1803, together with the Mexican Physician and botanist Jose Mariano Mociño as well, and Juan Diego del Castillo (drawer of the expedition); they explored most territory of Mexico and Central America, during these 16 years, the main sets of their collection were deposited at the MA herbarium (Royal Botanical Garden, Madrid, Spain) with a large set of duplicates at F herbarium (Field Museum of Natural History at Chicago, Illinois, USA) (Rzedowski *et al.*, 2009).

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