



Agave chazaroi (Agavaceae), another brand New Species from Jalisco, Mexico

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INTRODUCTION

Field work carried it out by us, in western Mexico (Jalisco, Colima, Nayarit, Zacatecas, Aguascalientes, Guanajuato and Michoacan states), during the last few years, in quest of succulent plants, mainly for Agaves (century plants) and Crassulaceae (stonecrop family): mainly *Echeveria*, *Graptopetalum* and *Pachyphytum* genera, has resulted in a fruitful activity, namely:

A.- Description of the 3 new Crassulaceae species:

- 1.- *Pachyphytum machucaae* Garcia, Glass & Chazaro (Garcia *et al.*, 1999).
- 2.- *Graptopetalum glassii* Acevedo & Chazaro (Acevedo & Chazaro, 2006) and
- 3.- *Pachyphytum contrerasii* Perez, Garcia & Chazaro (Perez *et al.* 2008).

B.- The publication of several papers on *Agave* spp. in *International Cactus Adventures* as well as a book on agaves of western Mexico (Vazquez *et al.*, 2007)

C.- The discovery of 4 new species and 7 new records for Jalisco state (Hernandez *et al.*, 2007).

The 4 new species of *Agave*, are:

- 1.- *A. valenciana* Chazaro & A. Vazquez (Chazaro *et al.*, 2005a and Chazaro *et al.*, 2005b)
- 2.- *A. vazquezgarciae* Chazaro & Lomeli (Chazaro *et al.*, 2006 and Chazaro *et al.*, 2007)
- 3.- *A. arcedianoensis* Chazaro & Valencia (Vazquez *et al.* 2007)
- 4.- *A. chazaroi* A. Vazquez & O. Valencia (Vazquez *et al.*, 2007).

In previous papers published by us in *International Cactus Adventures*, we provided data on the first three species, on *A. valenciana* (see Chazaro *et al.* 2005a and Chazaro *et al.*, 2005b); on *A. vazquezgarciae* (see Chazaro *et al.*, 2006 and Chazaro *et al.*, 2007); and on *A. arcedianoensis* (see Chazaro *et al.*, 2009). This time is the turn for the last one: *A. chazaroi*.

We deemed it important to published this paper for two reasons: since the original description came out in our book: *Agaves of Western Mexico* (Vazquez *et al.*, 2007) with a limited number of copies printed and distributed, so many people especially agave fanciers are not still aware of this fact. In addition general information and pictures have already appeared on the internet about this species, with some data not quite right, like this “century plant is the missing *Agave bakeri* “.

RESULTS

Good luck and a finely trained botanical eye resulted in the discovery of this new species presented here.

On the 16th September 2001, O. Valencia, M. Chazaro and I. Contreras were heading to the El Salvador plateau (north of Amatitan, Jalisco) in quest of fertile material of *Agave geminflora*, when crossing the Santiago river ravine, we stopped at the Santa Rosa dam bridge, and while there, O. Valencia spotted a century plants on the surrounding cliffs with binoculars.

When they approached them, it turned it out to be unknown to us, and they thought it to be perhaps a new species, but without flowers nor fruits it was very risky to take a final opinion then. Not to jump to false conclusions as they did with the determination of sterile material from the Colimilla ravine as *Agave impressa*, a first report for Jalisco (see Chazaro and Valencia, 2003), but when fertile material was obtained, it happens to be a new species, namely *Agave arcedianoensis* (Vazquez *et al.*, 2007; Chazaro *et al.*, 2009). This time they wanted to be cautious.

Later this month, M. Chazaro and O. Valencia, with the guidance of Jaime Luna Sr. and Jaime Luna Jr. from Tequila city, explored the ravine of the Santiago river, north of Tequila village, near San Martin de Cañas, founding very many plants but not in bloom yet. We asked Jaime Luna Sr. to keep an eye for flowering material of this particular century plant, that is known as “lechugilla” by the locals.

Suddenly, on 10 January 2002, Jaime Luna Jr. brought to Guadalajara, a piece of inflorescence collected by his father in a ravine northwest of San Martin de Cañas village, Tequila county (voucher: *sub* M. Chazaro B. 8161, type material at IBUG herbarium, University of Guadalajara).



Agave chazaroi, habitat (photo : M Cházaro).

Then, on the 13th January 2002, M. Chazaro and I. Contreras right away went on a field trip, guided by Jaime Luna Sr., visited this place and collected flowering material for herbaria specimens (voucher M. Chazaro and I. Contreras 8162, at IBUG). Now suspicion of a novelty started to grow. However because of its similarity with *Agave pelona* Gentry from Sonora, the material was erroneously determined by us as *A. aff. pelona*.

A. Vazquez, Y. Vargas, I. Contreras and M. Chazaro went back to San Martin de Cañas ravine, on 17 February 2002, to find it out that no a single plant was in bloom there.

Following collecting visits to the ravine NW of San Martin de las Cañas, fruiting material enabled us to compare and prove that this was a new species indeed, different from *A. pelona* and from *A. bakeri* Hook. F.

Taxon	<i>Agave chazaroi</i>	<i>Agave pelona</i> *	<i>Agave bakeri</i> *
Stem	acaulescent	acaulescent	with a short stem
Leaves width	10-25 cm	3-5 cm	10-12 cm
Leaves	stiff, upright	stiff, erect	flexible, recurved
Spine length	3-5 cm	4-7 cm	0.5-2 cm
Colour of the flowers	green-yellowish	dark red	greenish
Vegetation type	Tropical deciduous forest	xerophytic scrub	unknown yet

*The data of measurements from *A. pelona* and *A. bakeri* were taken from Gentry (1982).

MORPHOLOGY:

Monocarpic plant, solitary, not forming offsets or bulbils, without stem, rosette 1.45 m diameter, 80-90 cm high, leaves rigid, up to 80 cm long and more than 20 cm wide, green-yellowish, concave to flat in the upper side, convex in the underside, with a dark maroon stripe all the leaf margin, no teeth, terminal spine slender and long, 3-5 cm long, dark maroon, spiked inflorescence up to 2.5 m high, filiform bracts, floral peduncule 15 mm long, 1 mm wide, bifurcate pedicels, 10-15 mm long, geminate flowers, 2-3 cm long, including the neck, white-cream, infundibuliform corolla of 6 tepals, fruits oblong capsules, 2 cm long, glaucous when immature, turning green when mature, seeds very small. Authors of the taxon stated that it belongs to the *Amolae* group of Gentry

PHENOLOGY:

in flower during the months of January and February, fruiting in June and July.

HABITAT AND DISTRIBUTION:

It thrives in cliffs of basalt along the Santiago river basin, in Tropical Deciduous Forest, with other rupicolous (rock dwelling) plants such as *Mammillaria scrippsiana*, *Tillandsia capitata*, *Agave vilmoriniana*, *Hechtia podantha*, *Senecio velatus*, *Stenocereus*



Agave chazaroi, habitat (photo : M Cházaro).

dumortierii, *Stenocereus queretaroensis*, *Pachycereus pecten-aborigum*, *Ficus petiolaris*, *Pseudobombax palmeri*, etc.

So far it is known it grows in sparse populations in Amatitan, Tequila and Hostotipaquillo counties in Jalisco state, between 900 and 1 200 m altitude. Very likely to be found at La Yesca county in Nayarit state.

CONSERVATION STATUS:

In the stretch of 50 km along or so, of the Santiago river ravine, where we have seen *A. chazaroi*, there are hundred of plants, on a most unreachable vertical rocky walls, therefore we consider it is not under threaten nor in risky of extinction.

USE:

At Tequilisintla, in Amatitan county, where it is very abundant, we were told, that in the past, local people cut the leaves and after scouring they obtained fibres to manufacture ropes, also, it is of ornamental value as can be tested by horticulturist that sell it in the nurseries of Mexico, the USA. and elsewhere.

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ACKNOWLEDGMENTS

To Jaime Luna A (Jr.), Ignacio Contreras, Gerardo Hernandez, Gabriela Lopez, Yalma Vargas, Piet van der Meer, Raul Lopez, Kelly Griffin and Brian Kemble for their help and companionship in the field work.

Special thanks goes to Mr. Jaime Luna H (Sr.), for guidance at the ravines around Tequila region, as well as collecting the first flowering material for us.

M. Chazaro thanks the Departamento de Geografia, Centro Universitario de Ciencias Sociales y Humanidades, Universidad de Guadalajara, for economic and academic support for his botanical researchs.

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Miguel Cházaro & *Agave chazaroi* (photo : Raúl Lopez).

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