



The True Story of *Agave albopilosa*

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I had decided to make a report on *Agave albopilosa* for Cactus-Adventures *International*, and before leaving for Mexico, thus contacted the local authorities, in this particular case, the University of Monterrey, Nuevo-León to go there. Like many succulentophiles, I had heard about this mythical, recently described plant, the location of which was held secret, doubtless not to entice a little more greed. Several foreign botanists had managed to find it, but nobody gave a precise place. This was not going to stop me...

Unfortunately, I discounted the natural elements: Hurricane Alex had just left misery in its trail. In spite of the kindness with which I was received at the Faculty of Biology, University of Monterrey, it was impossible to make much headway. Roads were cut, bridges taken away, mountains collapsed, houses had disappeared, and, with valleys flooded, it was a very sad panorama. The damage caused by «Alex» exceeded by far those caused by devastating Hurricane Gilberto in 1988. Nevertheless, 7 deaths "only" were to be regretted in Nuevo Leon, against more than 200 during Hurricane Gilberto.

WHERE THE DISCOVERER IS NOT THE EXPECTED ONE...

At the University of Monterrey, Dr. Marcela González Alvarez is in charge of the herbarium of the Faculty of Biology. She had not seen *Agave albopilosa* in habitat yet and a curious fact was that the Faculty did not possess a herbarium sheet in spite of what I believed according to the article of its discoverer Ismael Cabral, who should have deposited an isotype here. Marcela said she would be happy to accompany me and collect a specimen, for her herbarium, but she did not know either where the plant grew, apart from, like everybody else, that the plant was discovered in the Canyon of Huasteca, now flooded, and whose road was taken away due to the cloudbursts.

Marcela was advised of my arrival through Miguel Cházaro while I had already



Agave albopilosa, habitat (photo : Jaroslav Šnicer).

left, she was not able to warn me about the happenings there. She introduced me to a researcher whom she thought must know where the plant is. Yes, he knew where the plant grows, for the good and simple reason that it was himself who was the real discoverer of *Agave albopilosa*! This was somewhat bewildering for me, because he is not the one of whom everybody speaks; Ismael Cabral, but it is Jorge Armando Verduzco, Doctor in Sciences, Professor, investigator in cellular biology and inventor of a molecular genotypification method for the Agaves using, I quote, nucleotidical ITSs sequences of the ribosomal DNA, no less!

All this was not very clear to me, nevertheless the interview became very interesting. His investigations on the genetics led him to work on the phenomena of hybridization, which fascinated him. I thus asked him about *Agave albopilosa*, which seems to me to be a hybrid or something similar. «Of course, it is a hybrid», he answered me. There are many species of agaves in the canyon, with a similar phenology (*Agave bracteosa*, *A. victoria-reginae*, *A. lechuguilla*, *A. striata*, *A. tenuifolia* and... *A. albopilosa*). Let us remind ourselves of the uncountable varieties of *A. victoria-reginae* that were created for an extremely variable species. Now in cultivation, it involves a stabilized, fertile hybrid because it reproduces well. - Another question I asked Dr Verduzco: «The hairs of this *Agave* would be, in my

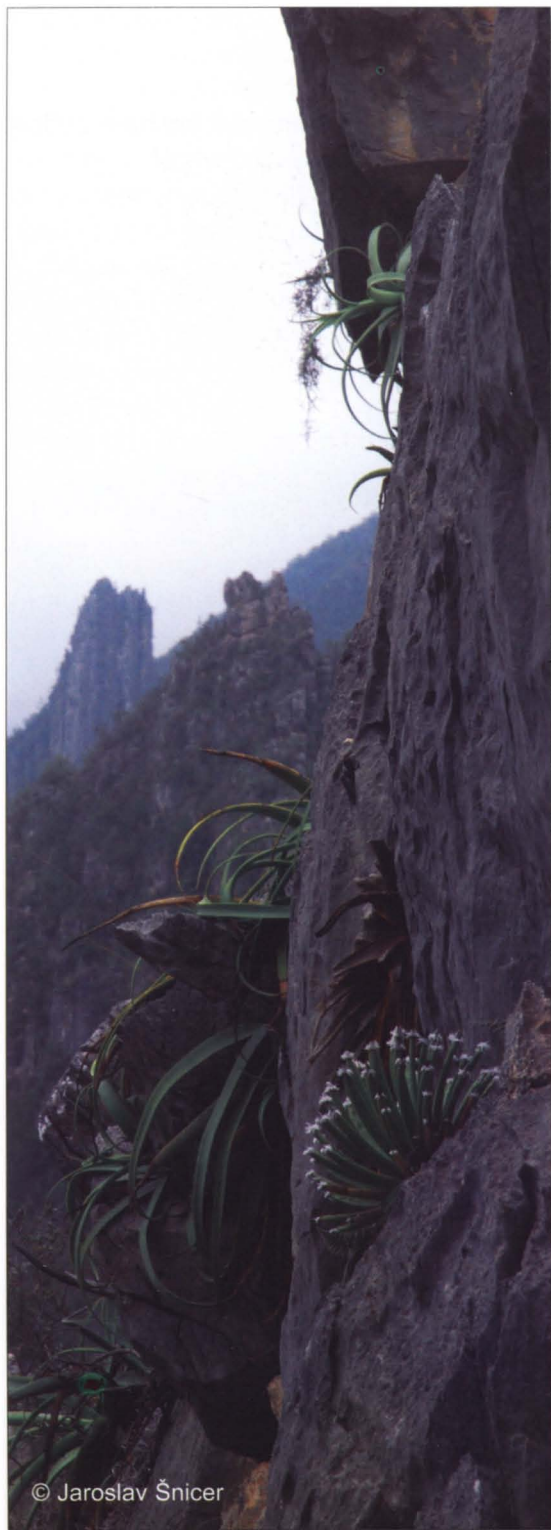
opinion, only the extremities of the leave fibres. Is this true?« «Yes, naturally so,» was the response!

Later, I noticed that the new leaves are not tipped with hairs, but the hard cuticle around the terminal spine which at first, looks somewhat like a triangular pencil tip, opens like a mesemb capsule and lets fibres of a white snow colour escape. They could act as the areole in cacti, and could serve as a water condenser and collector. For a plant growing on vertical cliffs, it could be effective. Moreover, the aspect of **Agave bracteosa** consolidates my idea, because this species grows in the same way, although having a different appearance, much reminding one of a Bromeliad of the genus **Tillandsia**; could it be because it also absorbs the humidity through its leaves and gets back the water thanks to the drainpipe shaped leaves?.. I asked so many questions that I almost forgot the most important one: «Where does **Agave albopilosa** grow?« Jorge Verduzco said that the location is held secret to avoid plundering (the plant is situated on inaccessible vertical cliffs!), but he will ask to the director of the Park for authorization and then will go with me next week as the situation is not the best at that moment.

Finally, through an excess of quite journalistic curiosity, I am interested to know when and how he discovered this *Agave*, while everybody says that Ismael Cabral is the discoverer of the plant, in fact, Jorge Verduzco neither appears in the literature quoted from Cabral, nor are there any hints at his person, because Cabral says that he is the one who discovered the species. It is enough to look on Internet, where Ismael describes the story of «his» discovery with a lot of conviction, including anecdotes! After all, by quoting Jorge Verduzco in his article, he would recognize that he is not the real author of the discovery. This sort of situation is rather commonly seen in the botany and zoology world. To want to be the first one is very human although not always ethical.

In fact, during one of his field trips, more than 10 years ago, Jorge Verduzco noticed and discovered the plant. Since he works on hybrids, he saw such a hybrid between **Agave victoria-reginae**, and another species, which may have disappeared, leaving the place to **Agave albopilosa**. These things sometimes happen in the nature. He even wrote a small article at this time, which he showed to me, with photos: he then named the plant **Agave** 'Victoria-montana', without a formal description. The young Cabral was at that moment at the University of Monterrey where he was busy with his doctoral thesis and where he met Jorge Verduzco who showed him his find. You know the following story!

I shall add that I tried to contact Ismael Cabral to have his version of the story, regrettably my e-mails did not get any answer. Afterward, Jorge Verduzco missed meetings and certainly something happened then which resulted in me attempting the adventure alone.



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My first visit to the Canyon of Huasteca was a failure, and not without danger. I arrived at the moment when excavators were taking out dozens carcasses of destroyed cars. The rains began to fall, the water levels rose over the pebbled track which replaced what was the road before, and obliged me to turn back quickly. The noise of the water which tumbled down the canyon was deafening and this added to the impression of insecurity. The car skated, touched boulders, but I manage to pass through! Exiting out of Monterrey was quite an exploit: roads were taken away by the flashfloods, it was therefore necessary to make big detours in a circulatory chaos, some places having literally disappeared from the map.

During my stay, I attempted several trips inside the canyon, including some on foot. The difficulty was immense, there was nothing: no more roads, public lighting, parks, houses, shops, a terrible vision of nature who had reclaimed the wild. Climbing the cliffs was quite hard. Clearing a way through the thorny matorral, I was happy to have boots; the vegetation here is almost impenetrable with ***Agave lechuguilla*** that shares the place together with ***Hechtia texana*** and the «mala mujer» or «bad women» ***Cnidoscolus multilobus***, a succulent Euphorbiaceae with beautiful white flowers, but the plant is painfully stinging. Between the cracks of limestone, I discovered ***Portulaca pilosa***, ***Echinocereus reichenbachii***, ***Mammillaria formosa*** and even ***Mammillaria prolifera***.

Arriving near the summit I spied a magnificent group of *Yucca rostrata* when inadvertently, I put my foot on an enormous flat boulder which fell over. I only had time to throw myself quickly aside to avoid being crushed by the paving stone which swept the other rocks in its fall. But there were no *Agave albopilosa*. During the precarious descent, I tracked down *Hesperaloe funifera* in the bottom of the canyon and I crossed to a shrub covered with capsules: it was an Euphorbiaceae: *Bernardia myricaefolia*.

The next day, my last attempt was made on foot, I passed several vehicles stuck in the water, including a four-wheel drive. Only a few days after Hurricane Alex, the situation was catastrophic, and there were no reference points anymore. It is difficult to imagine how it was before. On sheer cliffs, I could see a rich vegetation everywhere, with *Agave bracteosa* and *Agave victoria-reginae*. In the valley, I saw *Acanthocereus tetragonus* and *Cylindropuntia kleiniae* — that was just the beginning! The reddish stalks of *Dasyliirion berlandieri* betrayed their presence and allowed an easy identification. Several plants observed through the telephoto lens were probably hybrids or merely forms of *Agave victoria-reginae* looking much like *Agave albopilosa*, but I doubted whether it was the authentic one. I found *Agave* fibrous remains which demonstrated the violence of the elements. The walking was difficult because of the steep hills and the big boulders where I had to pass through. At this latitude, the night falls quickly and I had to turn back and find the car to put it on a small rise to avoid any bad surprises. It rained during almost all my stay, and the rest of the journey was particularly difficult, but this part will be for the next Cact.-Adv. issue. It is pity that I was not able to find the exact place, although now I know where it grows and also that I had been quite close. Lack of time and courage and especially the uncertainty of make the remaining kilometres brought the trip to an end.

We can wonder why the Mexicans deviously keep the location as a secret, while it is known even by the so named plant smugglers? Furthermore, *Agave albopilosa* is not in immediate danger, because it grows mainly in inaccessible places, it reproduces fairly well and produces an infinity of tiny seeds which germinate freely in habitat as well as in cultivation. So, what's the problem?

For more than 10 years that this plant has been known, why not try to propagate it knowing that collectors were necessarily going to want and obtain this new species? It would have been far more effective than the hypothetical protection in - situ. It seems to me that protecting a species, is at first propagating it (as the Canarians do with *Dracaena tamaranae*). I shall go even farther and say that those who prevent or prohibit this completely justifiable distribution have a high responsibility, and bring nothing positive to conservation. If the market of the cactus is so lucrative even for the so named traffickers¹ as said by Mexicans, why are they waiting to built greenhouses, make sowings and fill the market, as do the Dutch, Czech, Japanese or German nurserymen? Mexico has all the tools of success: seeds, climate, land, everything is favourable to them. Let us be realistic and



The Canyon de la Huasteca after the hurricane «Alex», in a hostile landscape (photo : J.L.).



Dasyliirion berlandieri and *Yucca rostrata*,
Canyon de la Huasteca. (photo : J.L.).



Echinocereus reichenbachii ,
Canyon de la Huasteca. (photo : J.L.).



Agave victoria-reginae, *Echinocereus enneacanthus* & *Coryphantha pseudonickelsae*, Canyon de la Huasteca. right: remains of an agave v.-r. victim of the flashflood (photos : J.L.).

serious. Everything is possible with a little willingness, political or not. The Chinese nicknamed *Echinocactus grusonii*, as cactus of luck. Millions were launched on the market. Here is a species of cactus that can disappear someday from Mexico but not from the face of the earth. I am sure that like for the Great Wall of China², there so many cacti in China, we can even see them from the moon!

To be continued...

Text: JL, photos: Jaroslav Šnicer and JL

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1 *it is enough to have a seed vacuum cleaner to be treated as a plant trafficker cf. local press.*

2 *In fact, the Great Wall of China cannot be seen from the Moon, it is a myth!*

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