Graptopetalum pentandrum Moran

Article · January 2004

CITATIONS
0

READS
572

4 authors, including:

Ignacio García Ruiz
Instituto Politécnico Nacional
49 PUBLICATIONS **221** CITATIONS

SEE PROFILE

IN SITU: *Graptopetalum pentandrum* Moran

Miguel J. Chazaro, Ignacio García Ruiz, Agustin Flores Macias & Jose Antonio Machuca Nuñez (Mexico)

INTRODUCTION

For several years we have been doing research work on succulent plants in western Mexico with the generous economic support of our institutions (M. Chazaro, from the Geography Department, University of Guadalajara, Jalisco Mexico and Ignacio Garcia, from the Institute Politecnico Nacional). Among the families under study, the Crassulaceae (stonecrop family), is one in which interesting findings have been made by us and published elsewhere. This time we want present to the International Cactus Adventures readers data on *Graptopetolum pentandrum*, an interesting and little known epilithic stonecrop.


Chorros del Varal, Michoacan, Mexico (Photo : Burl Mostul)

Graptopetalum pentandrum, habitat, Michoacan, Mexico (Photo: M. Chazaro).

RESULTS

On November 15th 1985, Ricardo Omelas and Agustin Flores, then from the Botanical Institute, University of Guadalajara, on a quest of to find a rare aquatic tagetes (marigold), found by mere accident a Crassulaceae plant hanging on a rocky cliff at the Los Corrales ravine, some 5 km east of Juchitlan Jalisco, Mexico. Because the plants were sterile, no herbarium specimen collection was carried out by them, so this remained unidentified until May 13th, 1990 when Agustin Flores guided M. Chazaro and J.A. Machuca to the very same spot. Upon arrival we were very lucky to find the population in bloom, so we were able to identify it right away as a ***Graptopetalum*** sp. and not an ***Echeveria*** sp. as first believed by Flores and Omelas. Without flowers it is very difficult to distinguish between each genera (***Graptopetalum*** and ***Echeveria***).

Since ***Graptopetalum*** sp plants were growing in a near vertical rocky (basalt) cliff, to pick them up was not an easy task, we had to use an adventitious root of a ficus free to climb, and a crevice in order to reach the lowest one (see photos) Voucher Specimen: M. Chazaro, J.A. Machuca N., A. Flores M. And S. Carvajal #6215 (Herbaria ENCB, IEB, MEXU, MO, MICH, XAL, WIS).

After a search in the literature we were able to identify it as the first wild population of ***Graptopetalum pentandrum*** subspecies ***superbum*** ever found. The discovery was narrated by Chazaro & Flores (1992) in the *Cactus and Succulent Journal of the U.S.A*.

Graptopetalum pentandrum ssp. pentandrum, habitat, Michoacan, Mexico (Photo: M. Chazaro).

Graptopetalum pentandrum was described by Reid Moran (1971) from material obtained by Myron Kimnach and Fred Boutin purchased in January 1970 at a nursery in Guadalajara, Jalisco, Mexico from unknown provenance.

The plants were cultivated at the Huntington Botanical Garden in San Marino, California, USA blooming in April 1971 and due to having only five stamens, Moran named the species as pentandrum (penta == five and andrum = stamens), in clear contrast of the ten stamen of the others species of the genus *Graptopetalum* (Moran, 1971).

Later on, in May 1973, Alfred B. Lau found the first wild population of ***Graptopetalum pentandrum*** at El Salto, a waterfall 4 km north of Aguililla, Michoacan (Kimnach, 1987).

Luis Avina, a physician at La Barca city, Jalisco state, bought a *Graptopetalum* plant from unknown locality as well at his town (Kimnach, 1987). Avina sent the plant to the Huntington Botanical Garden and upon flowering material Kimnach (1987) was able to detect differences in size with the ones he and Boutin purchased in Guadalajara, so he described a new subspecies, namely: ***Graptopetalum pentandrum*** subsp. ***superbum*** Kimnach so far only known in wild from Los Corrales Ravine, Jalisco as reported by Chazaro & Flores (1992).

The typical form (smaller size) then became ***Graptopetalum pentandrum*** Moran subsp. ***pentandrum*** known as a wild only form El Salto, Aguililla in Sierra of Coalcoman, Michoacan, western, Mexico, a very remote and dangerous spot.

In 1995, Horalia Diaz-Barriga, a botanist from the Ecology Institute in Patzcuaro, Michoacan told us of a ***Graptopetalum*** she found growing in a rocky cliff at the breeze produced by the waterfall of Los Chorros del Varal, 20 km southwest of Los Reyes, Michoacan. One of us (Ignacio Garcia) knew this interesting Ravine of Los Chorros del Varal, so in November 14th, 1995 we visited this most spectacular ravine, there are 760 steps to reach the bottom at the river, halfway across the hanging bridge as you look to the right there is a wonderful view of the waterfall falling into the river.

There is a look out point in front of the waterfall and right there on the rocky cliff abundant populations of ***Graptopetalum pentandrum*** subsp. *pentandrum* thrive, although again they were difficult to reach because of the steep slopes. So far ***G. pentandrum*** subsp. ***pentandrum*** as a wild plant is only know from two localities in Michoacan state, both near a waterfall but very far apart, whereas ***G. pentandrum*** subsp. ***superbum*** it is only known from one locality in Jalisco. We deem this species with both subspecies should be included in the conservation status of endangered species, in spite, it was not included by the federal government in the list of the Mexican flowering plants (Norma Oficial Mexicana: NOM-059-ECOL: 1995). Both ravines (Los Corrales Ravine and Los Chorros del Varal, Ravine) are covered by tropical deciduous forest, and both species are in bloom in April and May.

Graptopetalum pentandrum ssp. superbum (left) ***& Graptopetalum pentandrum ssp. pentandrum*** (right) (Photo: Patricia Hernandez).

M. Chazaro récoltant spécimens de ***Graptopetalum pentandrum ssp. superbum***, Jalisco, Mexico (Photo : P. Hernandez).

It is hard to believe that ***G. pentandrum*** **subsp.** ***superbum*** is only known in one location, it should grow in other part of southern Jalisco state, but so far nobody has been able to find it, although it should be mentioned that this area has been poorly explored by botanists due to the fact that there are few roads to get around and at first glance it doesn't looks promising. Nevertheless, we visualized that other ravines with the right exposure (southwest face) south of Los Corrales, ought to hold other populations of ***Graptopetalum pentandrum*** subsp. ***superbum***, awaiting an intrepid botanist to find them.

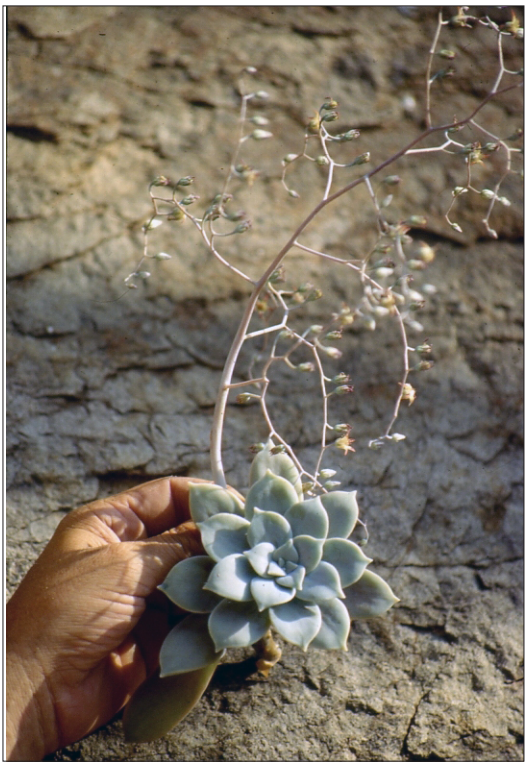
As it was pointed it out by Chazaro & Flores 1999 "In spite of the wide geographic range as a genus (***Graptopetalum***), most species are restricted to a few localities and as a consequence few people have had the privilege of seeing them in the wild" ***Graptopetalum paraguayense*** is only known form Cerro Bemal, in Tamaulipas, Mexico (Kimnach & Moran, 1986).

Graptopetalum amethystinum (Rose) Walter is only known from west of Bolaños, Jalisco (Chazaro & Flores, 1999) and el Espinazo del Diablo, in the mountains of Durango (Moran, 1963).

Likewise, ***Graptopetalum mendozae*** Glass & Chazaro, is known only from Boca Chango, a small crater located in the Huastec region, at Veracruz state, eastern Mexico (Fide Glass & Chazaro, 1999). We recommend when you are near Los Reyes, Michoacan do not forget to visit Los Chorros del Varal Ravine – it is such a marvellous place you can not miss it.

A slide taken by Patricia Hemandez of plants cultivated at home (Zapopan, Jalisco) clearly shows the differences between ***Graptopetalum pentandrum*** subsp. ***pentandrum*** (from Los Chorros del Varal, Michoacan) and ***Graptopetalum pentandrum*** subsp.

Graptopetalum pentandrum ssp. superbum, Jalisco, Mexico (Photo : M. Chazaro).



Graptopetalum pentandrum ssp. superbum, Jalisco, Mexico (Photo : M. Chazaro).

superbum (from Los Corrales Ravine, Jalisco).

Text & Photos: M. Chazaro et al.

ACKNOWLEDGMENTS

Thanks to Agustin Flores, Burl L. Mostul, Servando Carvajal, Raul Acevedo R, Patricia Hemandez de Chazaro, Jesus Cortes A, Pablo Carrillo R, Charles Glass and Mario Mendoza for helping in the field work. The Univesidad de Guadalajara, throughout the Geography Departament, C.U.S.C.H., has always rendered economic and academic support to Miguel Chazaro botanical research during several years. Ignacio Garcfa Ruiz is gratefull to the C.O.F.A.A. (Comision de Operacion y Fomento de Actividades Academicas), Instituto Politecnico Nacional for the scholarship.

We are grateful to Xochiti K. Padilla Amador, Esteban Soils Coral, Ana Ortega, Guillermo Acosta and Clemencia Cruz G. who typed the manuscript in the computer.

BIBLIOGRAPHICAL REFERENCES

Chazaro B. and A. Flores 1992. *Graptopetalum pentandrum* subsp. *superbum* found wild *Cact. Suc. J. (U.S.)* 64 (4): 187-189.

Glass C. Y M. Chazaro B. 1997. Una nueva especie de *Graptopetalum* (Crassulaceae) del norte de Veracruz. *Cact. Succ. Mex.* 42 : 79-82

Kimnach M. 1987 A new succulent from Mexico: *Graptopetalum pentandrum* subsp. *superbum*. *Cact. Succ. J. (U.S.*) 59: 140-143.

Moran R. 1963 *Graptopetalum amethystinum*. *Cact. Succ. Mex.* 33 (4): 89-90.

Moran R. 1971 *Graptopetalum pentandrum* a new species of Mexico *Cact. Succ. J. (U.S.)* 43: 255-258.

SEDESOL 1995. Norma oficial Mexicana, NOM-ECOL 059-1994 que determina las especies y subespecies de flora y fauna silvestre terrestre y acuatica en peligro de extincion, amenazadas raras y las sujetas a proteccion especial y que establece especificaciones para su proteccion. Diario oficial Mexicano, Mexico D.F.