

# RESCUING THE GREAT POTENTIAL OF NATURAL COLORING USING *GRANA COCHINILLA* IN OAXACA, MEXICO

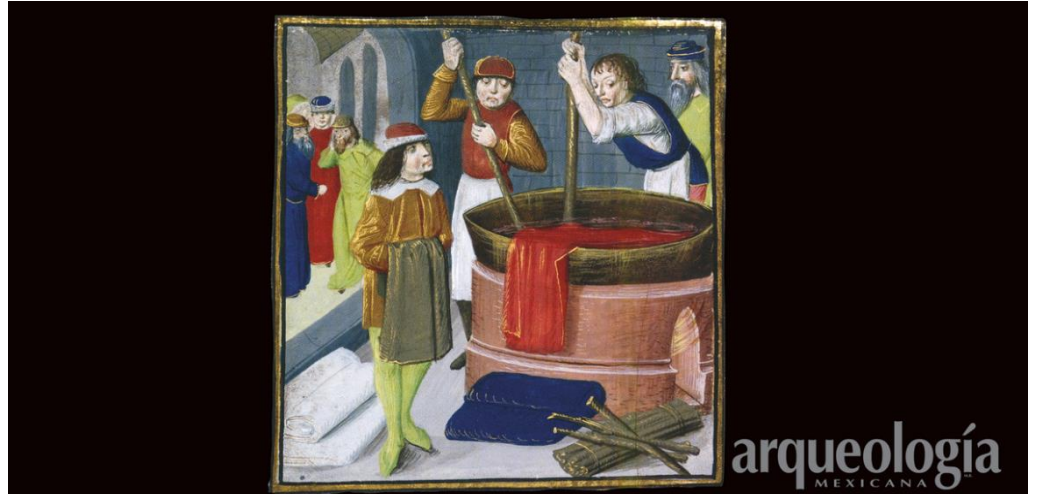
In the State of Oaxaca in Mexico, different initiatives are carried out to develop the extraordinary potential of *grana cochinilla*, a 100% natural colorant obtained from the dried bodies of *Dactylopius coccus*, a parasitic insect of Nopal.

In ancient times, the *aztecas* peoples of Oaxaca, with their extraordinary ingenuity, had developed a method of raising this insect to obtain a fascinating red pigment and use it to dye their textiles and handicrafts. To obtain the pigment, they let the Nopal leaves become infested with *cochinilla* and they extracted them until obtaining a purple powder. Carminic acid is the natural colorant produced by the *grana cochinilla*. Today the insect is grown mainly in greenhouses where the leaves have greater protection, but the manufacturing process remains basically the same.

[Studies and articles from institutions and universities in Mexico](#) document the history and potential of this colorant of Oaxacan origin that conquered the world. In colonial times from the 16th to the 19th centuries, the red dye obtained from the *grana cochinilla* became a competitive product with European dyes, being used to dye luxury textiles, handicrafts and tapestries. It was also on the palette of great painters such as Rembrandt and Van Gogh. These studies report that in Oaxaca entire communities were dedicated to breeding the plague and producing the pigment, being in charge of the reproduction of the insect, the packaging for distribution while others took advantage of the dye in textiles or handicrafts.

The cheaper and mass-produced synthetic chemical dyes, a product of the industrial revolution, determined a drastic abandonment of the use of *grana cochinilla*, which however continued to be cultivated and used by artisans in Oaxaca. In recent years, the new trends for sustainable development and the exponential growing demand from consumers for natural products that do not cause damage to the environment and health, have generated a favorable context to recover the practices of cultivation and use of the *grana cochinilla* as an alternative with a great environmental, economic and cultural impact for the territory of origin of this innovation.

Since the '90s, the [Museo Ecológico de la Grana Cochinilla Nocheztlicalli](#) (in Nahuatl: House of the Grana Cochinilla) is a space dedicated to the research and dissemination of scientific, cultural and artistic knowledge of the *Grana Cochinilla* and other traditional natural dyes from Oaxaca. The Museum was created by Catalina Yolanda López Márquez, researcher and innovator, in collaboration with the industrial engineers Claudia Juárez and



Sergio Juárez. The Museum, based in the Municipality of Santa Lucía del Camino, near the city of Oaxaca, integrates an ecological reserve where the Nopal is grown without using chemical fertilizers or herbicides. Once the Nopal reaches optimal development to feed the grana, they place the parasitic insect, taking care of it from pests and predators that could affect its growth. Once the insect reaches its adult stage, each mealybug is carefully collected. The Museum also develops the process of obtaining the color in its different shades and the processes of dyeing threads. In the Museum it is possible to learn the process to color using the powder and liquid product in different shades, and also to [buy the dried cochineal or the powder, among other products.](#)



The Museum performs its function of capitalizing and disseminating knowledge by offering courses and workshops aimed at producers, investors, textile designers, academics, researchers, students and other interested parties. In particular, it offers: training courses on the Nopal-*grana cochinilla* production process; practical workshops on the production technique of *grana cochinilla*; dyeing workshops for natural fibers (wool, silk, cotton) with natural dyes; dyeing workshops; analysis of Nopal capable of producing grana; special courses for ink production.



The Museum has obtained national recognition for the quality of the *grana cochinilla* it grows and for the research it carries out on obtaining shades and their application. With its work, it has also trained young people, women, peasants, entrepreneurs and small producers to establish Nopal orchards and carry out activities of breeding, use and management of the parasite and for the development of micro-enterprises for the production and use of natural dyes. The Museum conducts guided tours for school groups, academics, national and foreign tourists, to show the rescue, preservation and cultivation activities of the *grana cochinilla*. Producers from other territories of Mexico and from countries such as Ecuador and Panama have been advised on the breeding of the insect and the use of the natural coloring techniques.



Another initiative in Oaxaca that has drawn national attention is the work of the artisans of Teotitlán del Valle, who through the Arteova Collective implement a [production chain of grana cochinilla](#) to take advantage of the natural dye making their traditional floor mats and other handicrafts. The artisans of the collective organized a cooperative that works in the different aspects of the production process and that aims to build a Collective Brand allowing to generate greater local added value for the products offered in the markets.



The [national Magazine for agroecology 2000Agro](#) highlights the important benefits provided by the *grana cochinilla* production activities, such as generating jobs, exporting the insect, recovering eroded soils, recovering flora with the establishment of Nopal orchards with a triple purpose to produce vegetables, fodder and the *grana cochinilla*, while at the same time preserving an ancient activity of local origin.



Considering the important negative impact generated by synthetic chemical colorants for health and the environment, returning to the use of carminic acid, a natural colorant, may represent an important alternative for high-end and ecological fashion workshops. The wide variety of intense colors that it allows to elaborate is another significant quality aspect, added to the versatility of use of the pigment for different craft products, including dyes for painting.

The great economic and cultural value of the *grana cochinilla* is being reaffirmed thanks to the efforts of national institutions, centers such as the Nocheztlicalli Museum, the scientific community and design artists from Mexico. The [designer Moises Hernández](#), for example, has used the *grana cochinilla* to paint a collection of chairs that he successfully markets in his studio in Mexico City.



In this framework, the work of the producers and artisans in Oaxaca, who have ensured the continuity of this precious ancestral knowledge over the years, assumes the greatest importance to implement new *grana cochinilla* value chains that recognize their contribution and their key cultural and economic role for the future.

### To know more

[Nocheztlicalli Museo Ecológico de Grana cochinilla y Nopal website](#)

[Instituto de la Grana Cochinilla](#)

[Blog Nocheztlicalli](#)

[Article - Teotitlan del Valle in istmopress.com.mx](#)

[Laadi Arteova - Teotitlán del Valle – Oaxaca in wordpress.com](#)

[Grana cochinilla en Teotitlán del Valle in educaoaxaca.org](#)

[Article Tintes naturales de Teotitlan 2017 in nytimes.com](#)

[Grana cochinilla in Agroecology 2000Agro Magazine](#)

[Estudio Moises-Hernandez website](#)

[El rojo mexicana de la grana cochinilla - ciencia UNAM](#)

[Grana cochinilla in cienciorama -unam.mx](#)

[Grana Cochinilla in conabio - gob.mx](#)

[El colorante mexicano in gob.mx](#)

[Cultivo de grana cochinilla in gob.mx](#)

[Grana Cochinilla in gob.mx](#)

[La grana cochinilla - Archivo General de la Nacion – gob.mx](#)

[Cuadernillo - Museo Palacio Bellas Artes website](#)

[Manual Grana Cochinilla in edomex.gob.mx](#)

[Grana cochinilla como colorante natural in teorema.com.mx](#)

[Grana cochinilla in jornada.com.mx](#)

[Grana cochinilla, la huella del rojo in Issuu](#)

[Study in scielo.org.mx](#)

