JARDÍN BOTÁNICO "CERRO PRIETO, B.C." MÉXICO

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ABSTRACT

The Cerro Prieto Geothermal Field is located at North of the Baja California State in México, (32°22' - 32°26' N, 115°12' - 115°18' W) is part of the Colorado River Delta geological sub-province. This geothermal field is the more important in México and in Latin América. The surface occupied by the installations (power plants, wells and evaporation lake) is of 12 km^2 and in future it may reach 20 km^2. The construction of a Botanical Garden is projected in this field. Their main objectives are: to preserve the botanical patrimony of the regional flora, to promote the botanical research and the adoption of educational programs on this adress.

INTRODUCTION

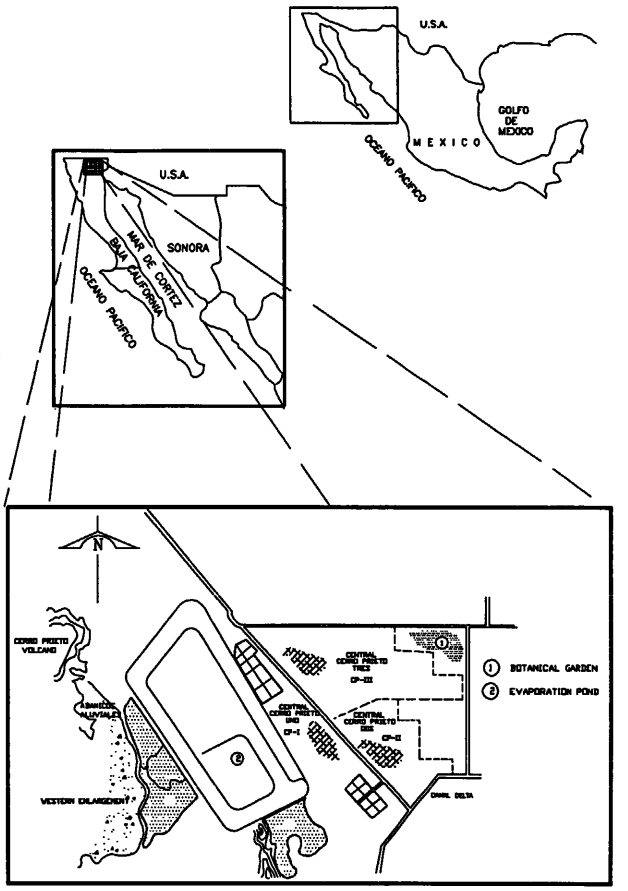
Comisión Federal de Electricidad has been adopted different environmental protection programs in this geothermal field. At present the construction, operation and maintenance of a botanical garden is part of the environmental programs for this project.

The Cerro Prieto Power Plant is the more important geothermal electrical generation facility in the country and is the second in capacity in the world. The surface occupied by the power plants, the geothermal wells and the evaporation lake is of 12 km^2 and in a future it may reach 20 km^2 .

The geothermal field is located on the North part of the Baja Caliornia State. The Mexican Association of Botanical Gardens do not have registered any one in the North-West of México. This is a important fact to promote botanical garden.

The vegetal soil cover in the Cerro Prieto Geithermal Field is characterized by small shrub typical of arid and semi-arid zones, that form the vegetation type named Xenophyll Heath (agree with the vegetation classification proposed by Rzedowsky, 1978) or microphyll desert Heath (as Frlores et al clasification, 1971).

LOCATION



HISTORICAL FACTS

There are documented information about the prehispanic botanical gardens. The native Mexicans establish a organization for this gardens at least before the XII century. The old mexican gardens born and developed similarly to those in Europe, linked with the study and aplication of the medicine. This was as true that the botanical-medicine was considered a same thing. (Valdez, 1974)

To date, there are approximately 36 botanical garden in Mexico. They are divided in categories in function of the development stage. Then, there are established, in consolidation, in formation and in reserve gardens. Most of them are located in the central part and in the south of the country. This type of gardens play a very important role in the preservation of the vegetal species out of the site (ex situ). Additionally, they are excellent diffusion forums for the botanical knowledge, helping with high effectiveness in the out-of school education.(Herrrera et. Al 1993)

SPECIMEN SELECTION

Once located the species to be represented in the garden, the next step is to choice the specimens that shown the best conditions to survive. They need be preferentially adults, without bad-formations or infested.

SPECIMEN REGISTERING

After the specimen selection has been done, it's necessary to register and shown in a map the place where it was collected.. This map will be in the appropriate scale. The information need be registered in a well designed scientific file. Without this file the garden cannot be called botanical garden.

PRESENT SITUATION

For this botanical garden, the Comisión Federal de Electricidad has an planed surface of 5 826 m^2 with water supply storage, tools and all the needed materials for this porpoise. Two agricultural engineers, two biologist and enough well trained manpower are available in site. The Baja California State University is a good advisory source for this project. Different national and international associations have been offered specimens, support and advisory resources for operation and maintenance of this garden and training in organization, and administrative aspects.

At present, CFE is waiting from the Mexicans Environmental Protection Agencies the permission to collect the specimens.

FUTURE PERSPECTIVES

Once the State and Federal Mexican Environmental Protection Agencies give the permission to CFE to collect specimens in the area, the Botanical Garden will be registered in the Mexican Association of Botanical Gardens, and then receive support from this Association and from others Mexican and international groups, ensuring the future of this project in the event that CFE cannot follow the operation and maintenance of the garden.

PRELIMINARY LIST OF PROPOSED SPECIES TO BE COLLECTED

Scientific name	Collection method
PALMACEAE	
Washingtonia filifera	*plant*
Washingtonia robusta	*plant*
Erythea (Brahea) armata	*plant*
LILIACEAE	
Yucca whipplei	*plant*
Yucca baccata	*plant*
Yucca schidigera	*plant*
Yucca valida	*plant*
Yucca brevifolia	*plant*
Nolina parryi	*plant*
AGAVACEAE	
Agave deserti	*plant*
Agave utahensis	*plant*
Agave utahensis nevadensis	*plant*
Agave shawii	*plant*
BROMELIACEAE	
Hechtia montana	*plant*
ACANTHACEAE	
Beleperone californica	*Seed*
ANACARDIACEAE	
Rhus integrifolia	*Seed*
Rhus trilobata	*Seed*
BIGNONIACEAE	
Chilopsis linearis	*Seed*
Tecoma stans	*Seed*
BURSERACEAE	
Bursera hindsiana	*plant*
Bursera microphylla	*plant*
BUXACEAE	
Simmondsia chinensis	*seed*
CACTACEAE	
Ferocactus cylindraceus	*plant*
Stenocereus gummnosus	*plant*
Mammillaria spp.	*plant*
Myrtillocactus cochal	*plant*
Opuntia spp.	*plant*
Pachycereus pringlei	*plant*
Carnegia gigantea	*plant*
Equnocereus spp.	*plant*
Peniocereus johnstonii	*plant*
Pereskiopsis porteri	*plant*

HELIANTHAE	
Encelia farinosa	*plant*
Pluchea sericea	*plant*
EUPHORBIACEAE	
Jatropha cinerea	*plant*
Jatropha cuneata	*plant*
LEGUMINOSAE	
Cercidium microphyllum	*seed*
Cassia covesii	*seed*
Dalea spinosa	*plant*
Errazurizia megacarpa	*plant*
Olneya tesota	*Seed*
Acacia greggii	*Seed*
Prosopis spp.	*Seed*
FOUQUIERIACEAE	
Fouquieriea splendens	*plant*
Idria columnaris	*plant*
ROSACEAE	
Adenostoma faciculatum	*plant*
ZYGPHYLLACEAE	
Larrea tridentata	*plant*

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