

## The Living Orchid Collection

Ex situ (*Latin*) means out of place. Whenever we grow orchid species out of their normal growing habitat we are growing them ex situ.

In situ orchid conservation and habitat preservation are the first line of defense for safeguarding orchid species for the future. A strong conservation effort would result if orchid growers would pledge not to buy newly discovered orchids like *Phragmipedium kovachii* until after the orchid and its habitat have been safeguarded in situ. Given the realities of our world, ex situ orchid conservation is important. Orchids and their habitats continue to be destroyed by logging, farming, collection and climate change.

Ex situ conservation can start by just growing your species orchids well. The next step is to propagate them from division and seed, and then distribute them to other growers. Our current ex situ conservation efforts are unorganized and without clear direction. This could lead to problems for species ex situ. One of the problems is preserving genetic diversity of a species. Another is knowing how many individual plants of a given orchid species are ex situ.

For a long time *Paphiopedilum delenatii* was considered extinct in the wild. All *Paph. delenatii* from 1910 to 1991 were bred from a few plants found in the 1910's and 20's. This led to line breeding for about 60 years resulting in little genetic diversity and growth vigor. In 1991, new populations of *Paph. delenatii* were found. This increased the genetic pool of *Paph. delenatii* giving greater diversity and vigor to the *Paph. delenatii* ex situ. Preserving genetic diversity of a species is important for ex situ orchid conservation. A large group of individual plants of a particular species are necessary to preserve a species well ex situ. Species with few individuals have to be carefully crossbred to increase the health of species ex situ. Ex situ conservation must encompass a wide range of flower and other plant characteristics of a particular species and not be limited to award winning quality. Award winning flower quality is based on human perception and not on the natural pollinator's perception.

Zoos have cooperative systematic breeding programs for mammal species in their care to maintain healthy populations and genetic diversity. We should do that with orchid species.

The Living Orchid Collection (LOC) is a beginning strategy for an organized, ex situ orchid conservation program in which everyone who grows a species orchid can participate. LOC is a collective, living orchid collection entered into a web database. Grouping orchid collections together as a virtual single collection will be a stronger ex situ conservation effort than separate individual collections. A grower enters their species orchids into the database. Each grower will continue to own, grow and have all rights over their orchid. A LOC identification allows growers to remain anonymous unless they want their identity to be known. LOC could be used for producing pollen, seed, propagation for genetic diversity, research, replanting in natural habitats, and taking pressure off wild collecting. Researchers and ex situ conservation efforts can use the database and then contact the grower by e-mail. The grower can decide if they want to take part in a particular ex situ conservation effort.

Orchid societies are encouraged to enter as a group. This would allow society members that grow only a few species to participate more effectively ex situ conservation. A society would essentially have their own Living Orchid Collection. For more information on the Living Orchid Collection: <http://www.livingorchidcollection.org>

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