



# MONTGOMERY BOTANICAL CENTER

*Advancing research, conservation, and education  
through scientific plant collections.*

## PROJECT REPORT

### International Conifer Conservation Exchange Project | October 15-26, 2007

*Project Team  
Contact Information*

*Chad Husby  
Collections Manager and Botanist  
Montgomery Botanical Center  
11901 Old Cutler Road  
Miami, FL 33156 USA  
chad@montgomerybotanical.org*

*Ronald Determann  
Conservatory and Conservation Director  
Atlanta Botanical Garden*

*Martin Gardner  
Coordinator of the International  
Conifer Conservation Programme  
Royal Botanic Garden Edinburgh*

*Philip Thomas  
Research Officer, International  
Conifer Conservation Programme  
Royal Botanic Garden Edinburgh*

*Fiona Inches  
Glasshouse Supervisor  
Royal Botanic Garden Edinburgh*

*Robert Mill, Ph.D.  
Gymnosperm Systematist  
Royal Botanic Garden Edinburgh*



Glasshouse at Royal Botanic Garden Edinburgh

#### SUMMARY

Montgomery Botanical Center and Atlanta Botanical Garden, through a Germplasm Exchange Grant from the USDA, sent staff to the Royal Botanic Garden, Edinburgh, Scotland, to facilitate international exchange of rare and endangered tropical conifer material. The exchange of 64 plants and 54 cuttings of rare tropical conifers was successfully achieved, and collaborative capacity for future *ex-situ* conservation success was built.

*This project was supported by the NPGS Plant Exploration and Exchange Program,  
Plant Exchange Office, National Germplasm Resources Laboratory, USDA-ARS, Beltsville, Maryland.*

## OBJECTIVES

For many years, staff of the International Conifer Conservation Programme (ICCP) of the Royal Botanic Garden Edinburgh (RBGE) have been collecting tropical conifer germplasm for *ex-situ* conservation and research purposes. At RBGE, this material must be housed under glass. Glasshouse space and height constraints limit the capacity to maintain large tropical taxa such as *Agathis* and *Araucaria* and often prevent those taxa from reaching mature coning size. The U.S. botanical institutions participating in this expedition, especially Montgomery Botanical Center (MBC) and the Subtropical Horticultural Research Station of the United States Department of Agriculture (USDA), are located in warm climate areas and thus have capacity to grow many of these taxa to maturity outdoors.

The main objective of this project was to obtain propagating material of a range of wild provenance tropical conifer germplasm for *ex-situ* cultivation in warm-climate botanical



Martin Gardner and Ronald Determann at RBGE evaluating germplasm of the very rare *Xanthocyparis vietnamensis*.

institutions in the U.S. A second objective was to learn about the operations of the ICCP and establish a foundation for further collaboration and exchange of germplasm.

## SUPPORT

The expedition was primarily supported by a Germplasm Exchange Grant from the USDA Agricultural Research Service. Montgomery Botanical Center and Atlanta Botanical Garden (ABG) provided additional support, including staffing, planning, supplies, and acclimation/propagation facilities. Chad Husby and Ronald Determann were generously hosted and assisted by Martin Gardner and Philip Thomas of the ICCP and Fiona Inches, Glasshouse Supervisor of RBGE. Germplasm was successfully imported to the U.S. and is being acclimated and propagated at ABG.

## ACCOMPLISHMENTS

Montgomery Botanical and Atlanta Botanical Garden successfully obtained living tropical conifer material through the RBGE and ICCP, advancing *ex-situ* conservation. In total, 54 cuttings and 64 plants comprising 34 species in four families were collected. This material will be distrib-



uted among the participating U.S. institutions including the National Plant Germplasm System (NPGS) of the USDA. Close collaboration by the four participating institutions led to a successful outcome. As of December 2007, the collected material is in good condition at ABG and several plants are already showing evidence of successful acclimation and establishment. Initial distribution of material to the NPGS and MBC appears feasible within the first quarter of 2008.

## INSTITUTIONS VISITED

The first days of the project were spent at RBGE (Inverleith) exploring the glasshouse conifer collections, learning about the activities of the ICCP, and visiting the herbarium. Propagation material was selected, labeled, and prepared for phytosanitary inspection. After a successful inspection, Chad Husby and Ronald Determann visited two RBGE satellite gardens that participate in the ICCP: Benmore and Logan Botanic Gardens on Scotland's west coast. After returning to Edinburgh, plant material was packed for transport and the participants discussed opportunities for future collaboration. In addition, initial plans were made for a visit by RBGE staff



Chad Husby with *Araucaria araucana*, Benmore Botanic Garden

to MBC and ABG in Spring 2008, and for additional germplasm exchange. Chad Husby and Ronald Determann returned to the U.S. on October 23 with the plant material. Chad Husby stayed at ABG for two days to assist in processing collected plant material before returning to MBC on October 26.

## Summary of Living Conifer Plants and Cuttings Collected

RGBE Accession	Species	Country of Origin	Wild Origin	Quantity	Type
19820027	<i>Afrocarpus gracilior</i>	Kenya	Y	5	Cuttings
19820755	<i>Agathis</i> sp.	Malaysia	Y	23	Cuttings
19622877	<i>Agathis borneensis</i>	Malaysia	Y	3	Cuttings
19860867	<i>Agathis macrophylla</i>	Solomon Islands	Y	3	Cuttings
20030755	<i>Agathis microstachya</i>	Australia	Y	2	Plants
20030757	<i>Agathis microstachya</i>	Australia	Y	1	Plant
20022535	<i>Agathis montana</i>	New Caledonia	Y	1	Plant
19860865	<i>Agathis obtusa</i>	Vanuatu	Y	3	Cuttings
19842636	<i>Agathis ovata</i>	New Caledonia	Y	2	Cuttings
20070920	<i>Amentotaxus</i> (hybrid)		N	5	Plants
20022529	<i>Araucaria laubenfelsii</i>	New Caledonia	Y	7	Plants
20022532	<i>Araucaria muelleri</i>	New Caledonia	Y	15	Plants
20022536	<i>Araucaria schmidii</i>	New Caledonia	Y	5	Plants
19820756	<i>Dacrydium</i> sp.	Malaysia	Y	5	Cuttings
20010647	<i>Dacrydium elatum</i>	Vietnam	Y	2	Cuttings
19672533	<i>Dacrydium beccarii</i>	Malaysia	Y	6	Cuttings
20020806	<i>Nageia wallichiana</i>	Vietnam	Y	4	Cuttings
19924284	<i>Nageia formosensis</i>	Taiwan	Y	1	Cutting
19952783	<i>Podocarpus brevifolius</i>	Malaysia	Y	3	Cuttings
20052571	<i>Podocarpus</i> cf. <i>polyspermus</i>	New Caledonia	Y	1	Plant
19340272	<i>Podocarpus milanjanus</i>	?	?	1	Plant
19932931	<i>Podocarpus novae-caledoniae</i>	New Caledonia	Y	2	Plants
20022520	<i>Podocarpus pilgeri</i>	Vietnam	Y	3	Plants
20022521	<i>Podocarpus pilgeri</i>	Vietnam	Y	4	Plants
20060910	<i>Podocarpus sylvestris</i>	New Caledonia	Y	1	Plant
20060947	<i>Retrophyllum comptonii</i>	New Caledonia	Y	5	Plants
19990390	<i>Retrophyllum minus</i>	New Caledonia	Y	1	Plant
20022515	<i>Xanthocyparis vietnamensis</i>	Vietnam	Y	1	Cutting
20022516	<i>Xanthocyparis vietnamensis</i>	Vietnam	Y	1	Cutting
20030533	<i>Xanthocyparis vietnamensis</i>	Vietnam	Y	1	Cutting
20030534	<i>Xanthocyparis vietnamensis</i>	Vietnam	Y	1	Cutting
20030537	<i>Xanthocyparis vietnamensis</i>	Vietnam	Y	1	Cutting

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### SUMMARY OF EXPENSES

Airfare	\$ 1,461.88
Lodging and meals	1,343.28
Car rental and fuel	521.33
Other transportation	66.53
Travel insurance	68.00
Supplies	34.27
<b>TOTAL</b>	<b>\$ 3,494.89</b>

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