

## VIII International Aroid Conference at Missouri Botanical Garden, August 9–11, 1999

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The VIII International Aroid Conference was held at the Missouri Botanical Garden in St. Louis from August 9 to August 11. The conference was organized by Tom Croat of the Missouri Botanical Garden and Peter Boyce of the Royal Botanic Gardens, Kew. Beth Cosgriff from the Missouri Botanical Garden served as the General Secretary and as the Poster Coordinator and was responsible for the day-to-day operation of events. This conference was successful in bringing together aroid specialists and enthusiasts from around the world. More than twenty countries were represented, including Australia, Belgium, Brazil, China (including both Taiwan and the People's Republic), Colombia, Denmark, Croatia, Ecuador, Germany, Great Britain (both England and Scotland), India, Japan, Mexico, Netherlands, Philippines, Russia, Singapore, South Africa, Switzerland, Spain, Thailand, Turkey, United States and Vietnam.

A total of 45 posters dealing with a wide variety of aroid subjects were presented and were made available for viewing throughout the conference. A total of 51 oral presentations were given during the three-day conference.

On Sunday, August 8, a welcoming barbecue was given by Tom and Pat Croat at Valle Escondido. Guests enjoyed traditional barbecue foods, bluegrass music, and the beautiful scenery surrounding Tom's home. Most participants registered at this time.

The conference was opened on Monday, August 9, with remarks by Tom Croat who stressed the accomplishments of the International Aroid Society since the first IAC held 19 years earlier at the Selby Bo-

tanical Garden in Sarasota Florida. Dewey Fisk, President of the International Aroid Society, followed these remarks with a welcoming address.

The first session of the conference entitled "Araceae of General Areas" was moderated by Dan Nicolson of the U.S. National Herbarium of the Smithsonian Institution in Washington, D.C. Included were talks covering 6 major floristic regions. Peter Boyce from Kew spoke about the "Araceae of Indomalaysia" and also the "Araceae of the Mediterranean Region"; Tom Croat discussed the "Araceae of South America"; Sue Thompson talked about the "Araceae of North America"; S. R. Yadav presented the "Araceae of the Indian Subcontinent" and Josef Bogner ended the session with the "Araceae of Africa and Madagascar".

Coffee breaks were taken in the Beaumont Center near the poster displays, and the catered lunches were given in the Floral Display Hall of the Ridgway Center. Most participants took advantage of these breaks to discuss the paper sessions and to view the many excellent posters. Cheryl Neuman, Research Greenhouse Coordinator for the Garden, led tours of the greenhouses each day during the lunch break. During the breaks, the participants were also given the opportunity to buy artwork, literature, plants, T-shirts, posters and other aroid-related items. On Wednesday, aroid cuttings and seedlings from the Missouri Botanical Garden's collection were sold.

Like the oral presentations, poster presentations were diverse in their content, and also interesting and attractive. The posters presented (alphabetically by pre-



Participants of the VIII International Aroid Conference at Missouri Botanical Garden August 9–11, 1999.

sender) were as follows: Kerim Alpinar, Istanbul University, Turkey, "The Uses of Aroids in Turkish Folk Medicine"; Ivanilza Moreira de Andrade, Universidade Estadual de Sobral, Ceará, Brazil, "Shoot Morphology in Brazilian Root-Climbing Araceae" and "A Preliminary Study of the Araceae of the State of Ceará, NE Brazil"; Danny Beath, Shropshire, England, "Pollination Ecology of the Araceae"; Gladys Benavides, QCNE, Quito, Ecuador, "Araceae of La Favorita Preserve, Pichincha Province, Ecuador"; Frieda Billiet, Jardin Botanique National de Beligique, Belgium, "Recent Collections of Araceae from French Guiana"; Deni Bown, England, "Aroids-Plants of the Arum Family (Revised Edition)"; Matyas Buzgo, University of Zurich, Switzerland, "The Gynoecium of *Gymnostachys* (Araceae) and *Potamogeton* (Potamogetonaceae)"; Felipe A. Cardona Naranjo, Universidad de Antioquia, Colombia, "A Preliminary Revision of *Spathiphyllum* (Araceae) in Colombia"; Fure-Chyi Chen with Chien-In Ke, Wan-Lin Wu and Shih-Wen Chin, National Pingtung University of Science & Technology, Taiwan, "Cytogenetic and Molecular Markers are Useful Tools for *Spathiphyllum* Breeding"; Maria de Lourdes Costa Soares, INPA—Botanica, Brazil, "Aroids of the Reserva Ducke (Manaus, Amazonas, Brazil)" and "Amazonian Araceae Species Represented in the INPA Herbarium, Manaus, Amazonas, Brazil"; Tom Croat, Missouri Botanical Garden, with Juan Chaparra, Washington University, St. Louis, Missouri, "*Dieffenbachia* of Central America", with Amisha Shah, Washington University, St. Louis, Missouri, "Flora of the Guianas", with Amisha Shah, "Araceae of La Planada, Nariño, Colombia", with Richard Mansell, University of South Florida, Tampa, and Lynn Hannon, Odessa, Florida, "The Araceae Flora of the Lita Region of Ecuador (Esmeraldas Province)"; David Draper Munt and Antonio Rossello Graell, Museu, Laboratorio e Jardim Botânico, Portugal, "Distribution Patterns of *Arum* Species of the Western Mediterranean Area"; Nguyen Van Dzu, Institute of Biology and Biological Resources, Vietnam, "The Diversity of

Vietnamese Aroids"; Tricia Frank, Tricia's Tropicals, Miami, Florida, USA, "Aroids in the Florida Landscape"; David G. Frodin and R. Govaerts, Herbarium, Royal Botanic Gardens, U.K., "World Checklist and Bibliography of Arales (Araceae, Lemnaceae) and Acorales (Acoraceae)"; Martha Patricia Galeano, Universidad Javeriana, Colombia, "Distribution of the Araceae of Colombia"; Eduardo Gomes Gonçalves, Universidade de São Paulo, Brazil, "Advances on the Tribe *Spathicarpeae*" and "Aroids from Hyperseasonal Savannas—A Vegetative Syndrome?", with E. A. S. Paiva and Marcus A. Nadruz Coelho, "A Preliminary Survey of Petiolar Collenchyma in the Araceae"; Gijs Grob, University of Amsterdam, The Netherlands, "Phylogenetic Analysis of *Amorphophallus* Based on Chloroplast Markers"; Dylan Hannon, Rancho Santa Anna Botanical Garden, "Do Tuberous Aroids Have Tubers?"; Alistair Hay, Royal Botanic Gardens, Sydney, Australia, with Peter Boyce, Wilbert Hettterscheid, Neils Jacobsen, Jin Murata, Josef Bogner, Elizabeth Widjaja, and Dan Nicolson, "The Araceae of Malesia, Australia and the Tropical Western Pacific"; Li Heng, Kunming Institute of Botany, People's Republic of China, "Current Advances of Araceae Studies in China"; Jorge Jácome, Marisol Amaya and Gloria Galeano, Universidad Nacional de Colombia, Bogota, "Vertical Distribution of Aroids in a Tropical Wet forest in Cabo Corrientes, Chocó, Colombia"; Richard Keating, Missouri Botanical Garden, St. Louis, "Specialization of Collenchyma in Araceae and Its Relation to Classification" and "Variation in Calcium Oxalate Raphides in Araceae"; N. Kuanprasert, University of Hawaii at Manoa with Adelheid R. Kuehnle, "Fragrance in *Anthurium*"; Adelheid R. Kuehnle, University of Hawaii at Manoa, "Biotech Breeding of *Anthurium*"; T. K. Matsumoto, University of Hawaii at Manoa, with Adelheid R. Kuehnle, "Zygotic Embryogenesis in *Anthurium*"; Simon J. Mayo, Herbarium, Royal Botanic Gardens, U.K., "The Aroideae Maximilianae and the Aroids of Brazil's Atlantic forest", and with Marcus A. Nadruz Coelho, Cássia Mônica

Sakuragai, and Eduardo Gomes Gonçalves, "The Araceae for the Flora of São Paulo, Brazil"; Melanie Medecilo, Texas Christian University, Fort Worth, "Ethnobotany of Philippine Aroids"; Takashi Miyake, Laboratory of Ecological Information, Kyoto University, Japan, "Pollination Biology of *Alocasia cucullata* Schott (Araceae)"; Marcela Mora-Pinto, Universidad Nacional de Colombia, "The Aroids of Cape Corrientes, Pacific Coast of Colombia"; Yasuko Mori, Osaka, Japan, "Genetic Diversity of Some Rheophytic Aroids of West Sumatra, Indonesia"; Marcus A. Nadruz Coelho, Jardim Botânico Rio de Janeiro, Brazil, "The Aroid Collections at the Botanical Garden Rio de Janeiro Research Institute"; Marion Osieki, Oglesby Plant Nursery, "Breeding Success with Some Aroids"; Mary Ruden, Miami, Florida, "Aroids in the Art of Mary Ruden"; Cássia Mônica Sakuragai, Univ. de Maringá, Brazil, "Araceae of Campos Rupestres from Cadeia do Espinhaço, Minas Gerais State, Brazil"; Jane Whitehill, University of Missouri-St. Louis, "Thermogenesis in the Araceae: A Model of Opportunistic Evolution"; Hiromichi Yoshino, Okayama, Japan, "Phylogenetic Relationships of Taro in Asia and Oceania"; Dao Zhiling, Kunming Inst. of Botany, People's Republic of China, "Araceae from Gaoligong Mountains, West Yunnan, China".

The second session, held Monday afternoon, was entitled "Aroid Collections, Horticultural and Herbarium" and was moderated by Simon Mayo of the Royal Botanic Gardens, Kew. This session included: "Important Horticultural Collections in South Florida" by Dewey Fisk; "Aroids at Selby Botanical Garden" by Donna Atwood; "Aroids at the Royal Botanic Gardens, Kew" by Peter Boyce; "Aroid Collections at Munich Botanical Garden" by Josef Bogner; "Aroid Collections in Russia" by Mikhail Serebryanyi; "Aroids of Southern California" by R. M. Cirino (presented by Scott Hyndman) and "Araceae Collections at the National Botanical Garden of Belgium" given by Frieda Billet.

The session ended with two special 40 minute lectures. The first, entitled "Run-

ning Hot, Running Cold-the World of Temperate Aroids", was presented by Tony Avent. He highlighted a wide array of aroid collections from around the world, including his own extensive collection at his Plants Delights Nursery in Raleigh, North Carolina. Next, Arden Dearden of Cairns, Australia presented a lecture on "Aroids of Australia", which among other things featured his marvellous private botanical garden in Queensland. Before the afternoon was over, we had been entertained with hundreds of beautiful aroid photographs from all over the world.

That evening, a reception was held for all participants in the Research Greenhouse, which houses the living collections of all Missouri Botanical Garden botanists and includes the thousands of aroids collected by Tom Croat and other staff throughout the years. Jim Cocos and Cathey Pauley, both of the Horticultural staff, gave a unique behind the scenes tour of the production, orchid and aquatic houses.

Following the dinner break, Peter H. Raven, Director of the Missouri Botanical Garden, welcomed participants to the Garden. He also discussed the history of the Garden and stressed the significance of aroids in the general study of evolution. The evening lecture, "Aroid Personalities, a Personal Perspective", was given by Tom Croat. In addition to discussing the earliest aroid researchers, including Schott, Brown and Engler, Tom also spoke about the current and up-and-coming leaders in aroid research. The history of the International Aroid Society and past aroid conferences was also discussed. The audience enjoyed this look back into time, as many participants were featured in the talk.

The third session, beginning on Tuesday morning, was entitled "Morphology, Systematics and Evolution" and was moderated by Josef Bogner of the Munich Botanical Garden. This session included the following papers: "Classification of *Rhodospatha*" by Tom Croat; "Revision of *Rhaphidophora* for Asia" by Peter Boyce; "A revision of *Philodendron* subg. *Philodendron* of Brazil" by Marcus A. Nadruz

Coelho of the Jardim Botânico, Rio de Janeiro; "Shoot Morphology in Brazilian Root-Climbing Araceae" by Ivanilza Moreira de Andrade of the Universidade Estadual de Sobral, Ceará, Brazil and Simon J. Mayo of Kew; "Taxonomy of *Amorphophallus*: State of Affairs" by Wilbert Hetterscheid and Gijs Grob of Hortus Botanicus, Leiden; "Comparative Vegetative Anatomy and Its Contribution to Classification of the Araceae" by Richard Keating of the Missouri Botanical Garden; "Molecular Systematics of the *Caladium* Alliance" by Jane Whitehill of the University of Missouri, St. Louis; "Classification of *Arisaema*" by Jin Murata, University of Tokyo and "Classification of *Dracontium*" by Guanghua Zhu of the Missouri Botanical Garden.

The fourth session, held Tuesday afternoon, was entitled "Araceae of Specific Areas" and was moderated by Sue Thompson from the Carnegie Museum, Pittsburgh, Pennsylvania. This session included the following lectures: "Revising the Araceae for the Flora of China Project" by Li Heng of the Academia Sinica in Kunming, China; "Araceae of Brunei" by Peter Boyce; "Aroids from Central Brazil" by Eduardo Gomes Gonçalves of the Universidade de Brasília, Brazil; "Araceae for the Flora of Ecuador" by Tom Croat and Richard Mansell (presenter); "The Araceae of Thailand" by Duangchai Sookchaloem of the Royal Forest Department in Bangkok; "Araceae of Western Ghats, India" by Shrirang R. Yadav from Shivaji University, India; "Araceae of Bajo Calima, Valle Department, Colombia" by Dorothy Bay from Southwest Missouri State College, Joplin, Missouri; "Araceae of Vietnam" by Mikhail Serebryanyi of Moscow Main Botanical Garden, Russia; and "Araceae of Chiapas, Mexico" by Miguel Pérez-Farrera of the Universidad Ciencias & Artes del Estado de Chiapas in Tuxtla Gutierrez, Mexico.

After the Tuesday afternoon session, a wine and cheese reception and tour of the Araceae herbarium was held in the Lehmann Research Building. Participants had an opportunity to see the dried herbarium collections of Araceae as well as the col-

lections of literature and photographs of Araceae. The Tuesday evening lecture, given by John Banta of Alva, Florida was entitled "The World of Aroids". This superb lecture showcased Araceae of the world and included many beautiful photographs.

On Wednesday, the final day of the conference, Jin Murata chaired the fifth Session entitled "Aroid Breeding and Horticulture" from the University of Tokyo. Papers were: "Progress in Potted Ornamental Aroid Plant Breeding Research" by Jake Henny (presenter), D. J. Norman and J. Chen of the University of Florida Central Research and Agriculture Center in Apopka; "The Anthurium Cut-Flower Industry in the Netherlands" given by Nic van der Knaap (presenter) and Nick van Rosmalen, *Anthurium* Selecties, Bleiswick, The Netherlands; "Taro Cultivation in Hawaii: Its Economic and Cultural Significance" by Ramon S. de la Peña, University of Hawaii; "Progress in Micropropagation of Araceae" by Scott Hyndman, Winter Park, Florida; "Biotech Breeding of *Anthurium*" by Adelheid Kuehnle, University of Hawaii, Honolulu, and "Cultivation of *Arisaema* in Warm Temperate Climates" by Eric Walton, HortResearch, Hamilton, New Zealand.

The sixth session was a miscellaneous paper session moderated by Peter Boyce of Kew. Papers presented during the morning portion included: "Pollination Ecology of the Araceae" by Danny Beath, Shropshire, England and "Insects Associated with Araceae" by John Rawlins, Carnegie Museum, Pittsburgh. The morning portion ended with the Roundtable Discussion entitled "Registration of Hybrid Plants by the International Aroid Society". Bruce McAlpin of Miami, Florida moderated this discussion. Participants included Wilbert Hetterscheid, Leiden, Mary Sizemore, Deland, Florida and John Banta, Alva, Florida. Although many ideas for a standardized hybrid and cultivar registration system were discussed, participants were unable to reach a resolution as how to accomplish this goal. Donna Atwood has since agreed to do research on how

other plant organizations have successfully undertaken the matter of registration and to bring the results back to the aroid community at a later time.

The afternoon portion of the Miscellaneous Paper Session featured "Investigations in the Genus *Arum*" by Marija Bedalov, University of Zagreb, Croatia; "Studies of subfamily *Lasioideae*" by Julius Boos, West Palm Beach, Florida; "*Amorphoballus* in China: How Many?" by Long Chun-Lin (presenter) and Li Heng of the Kunming Institute of Botany; "Acids of Seed Lipids in Taxonomy of Araceae" by Victor Soukup, University of Cincinnati, Ohio; "Comparison of Two Models for Chromosomal Evolution in Araceae", Richard S. Sheffer, Indiana University Northwest, Gary; "Revision of *Homalomena*" by Richard P. Wunderlin, Tom Croat (presenter) and Richard Mansell, University of South Florida, Tampa; "Taxonomy and Phylogeny of *Philodendron* sect. *Calostigma* (Schott) Pfeiffer in Brazil" by Cássia Mônica Sakuragui, Universidade Estadual de Maringá, Paraná, Brazil, and "The Gynoecium of *Gymnostachys* and *Potamogeton*" by Matyas Buzgo (presenter) and P. K. Endress, both from the Institute of Systematic Botany, University of Zurich, Switzerland.

The final presentation of the day discussed the International Aroid Society Webpage and Aroid-L. Guanghua Zhu, Scott Hyndman, and Thomas Mottl of Calv, Germany showcased some features of the website and discussed further improvements that could be made. E-mail addresses were also collected from the audience in order to sign them onto aroid-l.

The final evening began with a cocktail party held outside in the Garden. Guests then moved inside to enjoy the Closing Banquet, a delicious buffet catered by the Garden Restaurant. After dinner, participants attended the Closing Lecture and Award Presentation. Dewey Fisk auctioned off a signed copy of Deni Bown's "Aroids" (along with a kiss from the author) to the highest bidder.

Two awards were presented by the International Aroid Society for the first time

at the conference. These were the "Bette Waterbury Award for Excellence in Aroid Horticulture" presented to Josef Bogner from the Munich Botanical Garden and the "H. W. Schott Award for Excellence in Aroid Research" presented to Dan Nicolson of the Smithsonian, Washington, D.C. The beautiful awards were designed by Dewey Fisk and created by Luis Madrinan. The Bette Waterbury award was named in honor of the late Bette Waterbury, principal founder and first President of the International Aroid Society. She served repeatedly in various offices for the society, and finally as President Emeritus until the time of her death. The Waterbury Award is intended to honor persons who have made great accomplishments in the introduction, cultivation, study or promotion of living aroid collections.

The H.W. Schott Award is named for the grandfather of Aroid Research, the Viennese horticulturist of the Hapsburg Emperors who was the first to work intensively with Araceae and who revised the family as early as 1860. The Schott Award is intended to honor persons who have excelled in scientific studies with Araceae.

Dan Nicolson ended the evening with his wonderful and entertaining lecture, "The History of Classification in Araceae and a Modern Day Consensus". Dewey Fisk made some closing remarks and graciously thanked the organizers of the conference.

In terms of attendance, the VIII International Aroid Conference was the most successful yet, with 108 active participants. Having been held in conjunction with the XVI International Botanical Congress, the aroid conference was scheduled to benefit from the natural draw of this larger meeting, yet only a handful of the IAC participants attended the IBC. This conference was such a success because not only did it attract most of the major aroid researchers from throughout the world, but it also attracted a large number of our horticultural and enthusiast aroid brethren from throughout the United States. The program was specifically designed to be attractive to the latter community and most partici-

pants with whom we have consulted tend to agree that it was an interesting program. It is essential that this kind of participation continue at future conferences.

One of the last official actions of the VIII International Aroid Conference was to take nominations for the IX International Aroid Conference. The nomination made by Peter Boyce to have the next aroid con-

ference at the Royal Botanic Gardens, Kew was unanimously accepted. Since that conference is not scheduled until 2004, other conferences may intervene; including one tentatively planned in South America. Details on these possibilities will follow as they develop. We hope that all will work to make a success of any future meetings.