

## OBITUARY

**Carlos Eduardo Ferreira de Castro**

Graduated an Agricultural Engineer at ESALQ/USP (1975), M.Sc. (1984) and a Ph.D. (1988) at ESALQ/USP. Worked on Tropical at Botanical Institute and Agronomic Institute, throughout his professional life, until the present moment



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### **Our dear Carlos Eduardo Ferreira de Castro, a lover of tropical flowers and an artist**

Dr. Carlos Castro was an Agronomist, graduated in 1975, at the Luiz de Queiroz School of Agriculture, University of São Paulo, Brazil. In 1976 he was hired by the Botanical Garden of São Paulo to work with introduction, collections, and domestication of Brazilian native plants, especially with Marantaceae and Melastomataceae families. In 1981 he was transferred to the Agronomic Institute of Campinas (IAC), to conduct a plant breeding research program on cut flowers.

His doctoral thesis, with heliconia selection as a cut flower and ornamental plant, opened the possibility to work with species from the Order Zingiberales. Dr. Carlos and his team initiated a germplasm collection with taxons as *Heliconia* (80 species), *Zingiber* (10 species), *Etilingera* (3

species), *Costus* (20 species), *Dimerocostus* (1 species), and *Cheilocostus* (2 species) whose plants and inflorescences were extensively characterized in terms of morphology and phenology.

Numerous experiments determined the cut flowers' postharvest durability and improved the vase life to meet market requirements. Additionally, studies on propagation and micropropagation, fertilization, cultural practices, influence of light and temperature on the development and the occurrence of pests and diseases were established by his Master and PhD theses students (find more in the CV: <http://lattes.cnpq.br/1403472471365221>).

His research in plant breeding resulted in the selection and registration of new cultivars. The favorite new cultivar releases were 'Suanno', 'Anchieta', 'Almada', 'Angatu' and 'Ubatumirim' (*Zingiber*) and 'Cacheffo', 'Camburi', 'Itamambuca', 'Prumirim', 'Charlie', 'Principe' and 'Dom Pedro' (*Etilingera*).

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In addition to loving all species of the Order Zingiberales, he had a special preference for the species *Heliconia rivularis*, a native and endemic to Ubatuba and Parati (states of São Paulo and Rio de Janeiro, Brazil). In 2020, he reported that only eight populations of the species were identified, and the rest of known occurrence had disappeared as result of the urban expansion.

To popularize the use of Zingiberales as cut flowers and ornamental plants, some programs were developed to allow technology transfer to farmers - mainly family farmers and, *quilombola* and indigenous communities.

The results of his research were published in many scientific articles and books throughout his career and his knowledge disseminated in lectures, congresses, seminars, symposiums and courses in different regions of the country. Dr. Carlos enjoyed organizing scientific meetings and participating in congresses with other researchers, it was a way to discuss ideas, meet and introduce new professionals to research and collaboration networks. In 2010, he created the Research Group on Tropical Plants, of which we are honored to participate.

In an interview to the International Bulletin of the Heliconia Society in June 20th, Carlos was asked “When and what was your initial attraction to Zingiberales?” and he replied: *“In the beginning, the main proposal was to develop research that would meet the demands of producing flowers and ornamental plants. However, most producers of ornamental plants were descendants of European or Japanese immigrants, used to growing roses, chrysanthemums, gladioli, carnations and temperate plants. Due to their origins, these producers had access to cultivars and technologies developed in Japan and Europe. I didn’t want to simply adapt those technologies for Brazilian production. Despite how long it might take, my goal was to develop new products from tropical floriculture. So, I thought that working with heliconia could bring good results. For lack of knowledge, I thought of studying the five or six species of heliconias existing in the world! In conversation with a botanist, I learned that in fact there should be around 20 species of heliconias, since Roberto Burle Marx’s collection had 18 species, collected in Brazil or exchanged with collectors from other countries. Finally, in 1985, Roberto Burle Marx, in his garden, asked me “Are you really going to dedicate yourself to Heliconia?” I yelled “Yes!” Upon hearing my enthusiastic testimony, he told me that I should meet his*

*great friend, José Ernesto Ábalo, whom he considered the greatest taxonomist on Heliconia. He also gave me rhizomes of species in his collection, descriptions of more than 40 species by Ábalo & Morales in Phytologia, and copies of the International Bulletin of the Heliconia Society. At that time, I concluded that there were about 80 species of Heliconia (today it is accepted that there are 200-250 species)”*.

In 1991, during his PhD work, he had the privilege of spending 15 days with José Ábalo at his farms in Bejuma and Santa Cruz, Venezuela. This meeting was decisive in his professional choice to research with ornamental Zingiberales. Back in Brazil, he concluded his thesis on the selection of cut heliconia species, comparing 24 different species. From then on, he began to carry out expeditions throughout Brazil, to identify populations of heliconia. Later, it expanded the area to countries in South and Central America. At the same time, he began to publicize the immense potential of heliconias and other Zingiberales for the tropical floriculture market.”

*“However, the main challenge was to make floriculture research respected and recognized in Brazil. I wondered if I should regret getting into the flower business, since my parents sacrificed for me to study and work in food production. In 1975, the production and commercialization of floriculture began in the country, the IAC, an agricultural research institution created in 1887, was a conservative institution and at the time many professionals only accepted the development of research with food crops, floriculture was not a job for men. But I didn’t give up, in 1983, I approved the first floriculture project in Brazil, financed by the Governmental Research Agency. Among obstacles, lack of financial and human resources, many professional goals were achieved. But without a doubt, the most special were the people, loyal friends, researchers or lay people, that I met during the years of research with Zingiberales. Professional life has been very generous to me”*.

In July 2018, after 42 years working in research and technology transfer activities, Dr. Carlos Castro retired. However, he continued collaborating with the Zingiberales breeding program at the IAC and began to paint pictures mainly with Zingiberales species. Unfortunately, in January 21th, 2023 our friend lost his battle to cancer. However, he left us a great legacy and the mission to continue the researches with tropical flowers in Brazil.