Santiago Castroviejo Bolibar (1946–2009)

Prof. Santiago Castroviejo passed away on the 30th of September 2009 at the age of 63, after struggling for years against cancer. This great tragedy, however, did not stop him from working day after day until the end—not just at home with his computer, but also at his office. This illustrates his steadfast character and his strong professional motivation. Botany was his life and the Botanical Garden of Madrid was his home.

Santiago was born in Tirán, Moaña (Pontevedra, NW Spain). He received his Bachelor’s degree in Biology in 1969 from the Complutense University in Madrid and the Doctorate from the same university in 1972. In 1969 he joined the crew at the Madrid Botanical Garden which belongs to the Spanish National Research Council (CSIC) as a Ph.D. student while simultaneously teaching at that University. Since 1974, when he won a permanent research position at the Garden, he would remain there for the rest of his professional career, reaching the research professorship in 1990. He started flirting with zoology but soon felt the attraction of the plant world ‘while studying the habitat of the animals’ and shifted to botany.

Although he was interested in those early days in several subjects such as floristics, taxonomy, cytotaxonomy, phytosociology and ecology, by the end of the 1970s he was already involved in what would be the most ambitious project in his life, Flora Iberica. The motivation for the work was crystal clear: there was no modern flora of Spain. The old Willkomm & Lange’s *Prodomus Florae Hispanicae* (1862–1880) was still used but clearly outdated. A number of previous initiatives to produce a modern Iberian flora had failed, and thus nobody thought at the beginning that the one hatched at the Madrid Botanical Garden would succeed. But this new initiative had a number of advantages. The enthusiasm of a handful of active young colleagues from the Garden and from other Spanish and Portuguese centres was one key factor. No doubt another one was Santiago’s enthusiasm, determination, organizational skills and capacity to convince authorities and botanists alike of the importance and feasibility of the project. Accordingly, from the first published volume (Castroviejo & al., 1986), the Flora Iberica team grew and grew so that to date some three hundred authors from 33 countries have contributed generic accounts over the last almost two and a half decades. Fourteen volumes have been published so far (of the scheduled 21), representing almost sixty per cent of the total species. Another thirty per cent is currently in a fairly advanced state of editing.

The reactions upon publication of volumes of Flora Iberica were always very positive, highlighting the thorough scientific editing, the quality of the line drawings, and the detailed nomenclatural revision that underlay every generic account (e.g., Ferguson & Ferguson in *Kew Bull.* 50: 427–429. 1996; Greuter in *OPTIMA Newsletter* 37(2): 67. 2004; etc). As general coordinator of the Flora, Santiago made a great effort in coordinating an increasing number of people working in the team. In a moment in which the Madrid team could not cope with it all, he made a critical decision to strategically and successfully distribute the main responsibility of the project among a group of active botanists from universities across Spain. He also managed to maintain a cohesive group who enthusiastically contributed to this important work.

Santiago was not a man, however, with only a single goal, and his managerial and leadership abilities were also outstanding. Thus, in 1984, he became director of the oldest—and, in some respects, most prominent—botanical centre in Spain, and the one that had been the backbone of Spanish botany at least until the mid-20th century. His mandate as director lasted more than ten years (1984–1994). The stimulus for taking active part in the renaissance of the Garden started shortly after defending his Ph.D. thesis, when he witnessed an almost complete lack of official support and a degeneration of garden designs that had framed the living plant collections during the 18th and 19th centuries. By 1979 he got involved in the restoration of the garden itself and of the Villanueva pavilion (a former orangery built in the 1780s by the main two royal architects) as a Secretary of the institute. It was then that he realized that the institute could become again a world-class scientific and education centre—rising from the ashes like a phoenix—as it had been during the short period at the end of the 18th century led by Cavanilles. When he was appointed director in 1984, he was ready for the challenge!
In this post, he put his efforts into consolidating a renaissance of the institution, which ten years before had been seriously threatened not only by lack of official support but also by alternative plans. One such plan envisaged construction of a Goya Museum, ‘taking advantage’ that the Garden lies beside the Prado Museum in one of the most expensive quarters of Madrid. He contributed decisively to modernize the Garden in all respects, scientific, educational and horticultural. One of the main works completed was the exhibition greenhouse built in 1993 (and renamed after him on July 1st, 2009). This building was designed in collaboration with physicists from the CSIC and intended to comply with high standards of technology and sustainability of that period. He also constructed a convenient research greenhouse adjacent to the research building as well as reinforced the Herbarium, Archives, and Library both with personnel, increasing budgets, and through the acquisition of important archives and herbaria. The computerization of the MA herbarium, the most important in number of specimens and historical value in Spain, started during his mandate. He also founded the journal *Ruizia. Monografías del Real Jardín Botánico de Madrid*, of which he would be editor-in-chief until the end. He also promoted the active use of the Villanueva Pavilion for exhibitions, a number of which were devoted to publicising the great achievements of the 18th century overseas expeditions (Mutis, Ruiz & Pavón, Sessé & Mociño, etc.), which included herbarium collections, drawings, and archive documents preserved at the Botanical Garden. With regard to research, in addition to the *Flora Iberica* project, Santiago tried to establish a strong line of research on tropical floras. For this, he was inspired by the 18th century expeditions in which the Garden was deeply involved and by the taxonomic work done by José Cuatrecasas, who was director during the Spanish Civil War, exiling himself to Colombia when it ended. Santiago focused first on Colombia where he pushed the continuation of the *Flora de la Real Expedición Botánica del Nuevo Reino de Granada* from José Celestino Mutis in collaboration with the Instituto de Ciencias Naturales (Universidad Nacional). By the 1990s, he embarked upon a bold adventure in the Pacific Island of Coiba (Panama), which had been a prison for years. He succeeded in producing a catalogue of the biodiversity of the island (Castroviejo, 1997) and also in establishing a biological station, inspired in part by the success of Barro Colorado Island. He was not satisfied with these achievements, however, and he kept struggling to convince both Panamanian as well as Spanish (CSIC) authorities to make the station permanent. He always maintained an interest in Latin American flora and continued working there (e.g., Castroviejo & Ibáñez, 2006), giving talks and participating actively in subsequent editions of the *Congreso Latinoamericano de Botánica*, for which he was a well-known person there. He also focused on a former Spanish territory in the Paleotropics, Equatorial Guinea, by establishing a permanent collector there; this action enabled the initiation of a flora of the region two decades later (Velayos & al., 2008).

With success of *Flora Iberica*, he became interested in electronic tools applied to floras and taxonomy. The first effort was a pioneer CD-ROM version of the first published volumes of *Flora Iberica* (Castroviejo & al., 1996) that allowed searches and aided in identifications. A particularly successful development along this line, but certainly not the only one, was an information system on Iberian plants on the Internet, *Anthos*, launched in 1999. The concepts for this project were developed during his directorship through an extensive computerization program focused on distribution records from the most important journals that contained floristic studies on Iberia. In 1999, by request from the Spanish Ministry of the Environment (Fundación Biodiversidad), he conducted the adaptation of the existing distributional databases into the useful and highly visited electronic tool that we know today (http://www.anthos.es/).

He was an active defender of taxonomy as the basis of every single biological study (García-Valdecasas & Castroviejo, 2000), and specifically, he studied groups such as *Sedum, Ulex, Carex, Adenocarpus*, and Chenopodiaceae, among many others. His scientific record includes two hundred publications (among them 26 books), 18 Ph.D. dissertations supervised, and numerous national and international research grants. He was also known for his environmental concerns,
particularly dealing with issues related to reforestation, fires, and conservation, which resulted in books and articles both in academic journals and newspapers (Castroviejo & al., 1978; Castroviejo & García Dory, 1985).

Throughout his life, Santiago enriched substantially the herbarium collections of the Botanical Garden. He was an active and meticulous plant collector, something that he transmitted efficiently to all his students and collaborators. The appreciation for representative well-preserved specimens moved him to organize a series of botanical expeditions every year starting in 1990, which not only allowed people working for Flora Iberica to collect specimens but also to discuss problems, establish contacts with local botanists, and ultimately to create a cohesive group. These expeditions were focused initially in the Mediterranean Basin, but gradually extended their range. At the end, his 18,000 collection numbers came from virtually everywhere—in Europe from Greece to Lapland; in Asia, the Altai, Turkey and Armenia; in Africa, Guinea, Tanzania, South-Africa and the Maghreb; in Latin America, from most of the continent.

His responsibility in the Flora Iberica project and its electronic developments opened up the door to him for participation in a number of international committees and worldwide initiatives such as the Steering Committee of the Species Plantarum Project—Flora of the World (Brummitt & al., 2001), the Board of Flora Neotropica, the Council of the International Association of Plant Taxonomy (IAPT) and the Euro+Med Plant Base, among others. Among the awards and distinctions received are the Médaille du Conseil de la Société Botanique de France and the Medalla do Centenário da Sociedade Broteriana. One and a half months after Santiago’s death, he was awarded the Alejandro Malaspina National Research Prize in the area of Science and Technologies of Natural Resources. This was the first time the prize was given posthumously. The Royal Academy of Sciences (Real Academia de Ciencias Exactas, Fisicas y Naturales), of which he was a member since 2002, convened a special session in his honor on 25 February 2009.

Personally, Santiago was intelligent, pragmatic, bold, ambitious and hard working. These features help explain much of what he did in Botany and at the Madrid Botanical Garden. In addition, however, he was also a sociable man with broad cultural interests, who enjoyed conversations about every topic. It is sad that his premature demise did not allow him to see completion of his main project, the Flora Iberica. But, he not only paved the way for conclusion of the project but also drove the bus and kept it moving with such a momentum that we envision a successful completion in the not too distant future.

We will miss him in many respects. May he rest in peace!

Literature cited


Gonzalo Nieto Feliner, Carlos Aedo
& Félix Muñoz Garmendia
Real Jardín Botánico, CSIC, Madrid