



## A NEW SPIRIT, AGAIN: SANDRO PIGNATTI, THE EUROPEAN VEGETATION SURVEY AND THE FUTURE OF VEGETATION SCIENCE

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This Special Issue of *Annali di Botanica* originates from a meeting held on 21 October 2025 at the Botanical Garden of Sapienza University of Rome, where friends, colleagues and pupils gathered under the auspices of the European Vegetation Survey Working Group of the International Association for Vegetation Science to celebrate the scientific and human legacy of Sandro Pignatti (Attorre et al., 2025). The place was not accidental. The Orto Botanico of Rome was one of the intellectual homes of Sandro's mature work and, more specifically, the place where, in March 1992, he convened the first workshop of what was to become the European Vegetation Survey (Rodwell et al. 1995). Nor is the journal accidental. Since those first meetings, *Annali di Botanica* offered a hospitable forum for the proceedings of the EVS, at a time when European vegetation science was still seeking a common language, common standards and, perhaps above all, a common horizon. More than thirty years have passed since that beginning. The small group that met in Rome in the early 1990s has become a wide scientific community. What was then a project, the idea that European vegetation could be described, compared and interpreted across national borders, has become an infrastructure of knowledge (Chytrý et al., 2016; 2024). National surveys, syntaxonomic syntheses, database networks, classification tools, crosswalks with habitat systems, and large continental repositories have profoundly changed our discipline. It

would be easy to present this history as a story of linear progress: from paper tables to digital archives, from local monographs to continental data sets, from subjective interpretation to increasingly formalized classification. Yet such a narrative would be too simple, and probably not faithful to Sandro's own way of thinking. Sandro knew very well the value of formalization, of large data sets, of computers and shared standards; indeed, he was among those who encouraged the transition from isolated national traditions to a European perspective. But he also warned against the illusion that the accumulation of information automatically produces understanding. In 1995, he wrote: "It seems that the increasing number of available relevés has not brought clarity, but on the contrary, confusion. There has been an increase of information, but hardly an increase of knowledge. Here in my opinion is one reason for the present crisis of phytosociology" (Pignatti, 1995). The expression "a new spirit in phytosociology", coined by Sandro in the mid-1990s, continues to resonate today, and the contributions collected in this Special Issue reflect the breadth of this legacy. They do not merely commemorate a scholar; they show how many research pathways still depart from him. The Venice Lagoon, the Mediterranean, the Alps, urban ecosystems, palaeoecology, island biogeography, syntaxonomy, floristic databases, digital identification tools, semi-supervised classification, artificial intelligence and environmental ethics

may appear, at first sight, as separate themes. In Sandro's intellectual world, they belonged to the same dialectical tension: the attempt to understand the vegetation as both a scientific object and a perceptual experience. His culture was Mitteleuropean and Mediterranean at the same time; analytical and humanistic; taxonomic in its precision and ecological in its need for synthesis. He belonged to that rare kind of botanist for whom the name of a plant, the physiognomy of a community, the history of a landscape and the destiny of the biosphere were not separate compartments of knowledge (Guarino, 2025). This breadth is particularly important today. Vegetation science is entering a phase in which the quantity of available data is growing faster than our capacity to interpret it. Artificial intelligence, remote sensing, continental databases and automated classification promise unprecedented analytical power. We should welcome these tools, but we should not surrender judgement to them. The future of vegetation science will not be secured by larger databases alone. It will depend on whether we can keep together field experience and computation, taxonomy and modelling, syntaxonomy and conservation policy, local knowledge and continental synthesis. A European Vegetation Archive without botanists capable of recognizing plants and communities in the field would be an empty machine (Bonari, 2025). Conversely, field knowledge that refuses data sharing and reproducible methods risks remaining mute in the face of continental and planetary change. Sandro's later reflections on the crisis of the biosphere remind us that the decline of natural vegetation, the simplification of landscapes, the spread of alien species, eutrophication, urban expansion, and climate change cannot be understood if humans are placed outside nature, as observers or managers of an external object (Pignatti, 2013). *Homo sapiens* is one species among others, although today a disproportionately powerful one. From this follows an ethical consequence: vegetation science is intrinsically a science of relations, bridging ecological knowledge and human responsibility to guide the restoration of our shared home. *Annali di Botanica*, the same journal that accompanied the early years of the European Vegetation Survey now celebrates Sandro's legacy at a moment when our discipline is redefining its tasks. In the 1990s, the challenge was to broaden vegetation studies to a European perspective. Today, the challenge is to make vegetation knowledge policy-relevant without making it subservient; technologically advanced without losing its contact with plants, communities and landscapes. The tree planted in the Botanical Garden of Rome at the end of the commemorative day (*Hoheria glabrata* Sprague et Summerh, Malvaceae, endemic to New Zealand) is an appropriate symbol because, in our hope, it will grow, transform, cast shade, establish new relations with the surrounding biota. So too should this Special Issue be

read: not as a monument, but as a living gesture. To honour Sandro Pignatti is not to repeat his words, nor to preserve his legacy in a museum of venerable concepts. It is to continue the work where he left it: with intellectual courage, with disciplinary openness, with distrust of easy abstractions, with confidence in collective science, and with the conviction that the study of vegetation remains one of the most concrete ways of turning botanical knowledge into a living tool for territorial stewardship, bridging the gap between scientific observation and ecological responsibility. The "new spirit" that Sandro envisioned is thus needed once again. It asks us to classify, but also to understand; to compute, but also to observe; to monitor, but also to revise our relationship with the entire biosphere. If vegetation science fulfils this task, the legacy celebrated in these pages will not merely belong only to the past; it will serve, once more, as a guiding framework for the future.

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