

Announcement

The Phytochemical Society of Europe—Pierre-Fabre Award
for Phytochemistry 2003

Professor Virginia Lanzotti

The Committee of the Phytochemical Society of Europe and Pierre-Fabre Laboratories are pleased to announce that the recipient of this Award for 2003 is Professor Virginia Lanzotti, (Associate Professor of Organic Chemistry, Department of STAAM, University of Molise, Via De Sanctis, I-86100 Campobasso, Italy) for her outstanding contribution to the study of the chemistry and biological activity of natural products. Dr. Lanzotti was presented with the Award by Dr. Georges Massiot of Pierre-Fabre Laboratories at the meeting of the PSE on the Chemistry and Biology of Marine Natural Products at Kolympari, Crete, Greece, on 22 September 2003.

Virginia Lanzotti studied Chemistry at the University of Naples Federico II, where she graduated *cum laude* in 1982. During her thesis preparation and post-doctoral study she was introduced to the chemistry of secondary metabolites by Professor Ernesto Fattorusso, with whom she worked on the isolation and structure determination of polyhydroxysteroids and alkaloids from marine organisms, anthozoans and hydroids (1981–1984).

In 1985, she was appointed as researcher at the Italian National Research Council, joining the group of Professor Mario De Rosa. Here, she studied the chemistry of Archaeobacteria (halophiles, methanogens and thermophiles), and Eubacteria (hypothermophiles). In particular she developed an efficient method to isolate

complex lipids without the use of degradation procedures. A large number of phospholipids, glycolipids and quinones have been characterised from Archaeobacteria by the use of two-dimensional NMR techniques. During this period she was awarded a post-doctoral fellowship to study at the University of Bonn in the group of Prof. Eberhard Breitmaier. Here, she became familiar with the use of 2D-NMR techniques applied to the characterisation of natural compounds. A synthetic approach to obtain selective reduction of carbonyl to alcohol by the use of resting cells of the thermophile Archaeobacteria *Sulfolobus solfataricus* was also developed.

In 1989, Virginia Lanzotti was appointed to a research position at the University of Molise and in 1992 was appointed Associate Professor. She continued until 1996 to develop her research in the field of the chemistry of marine organisms, in particular in the isolation of a large number of rare sesterterpenes with a wide structural variety showing interesting antifeedant properties and antiproliferative activity. One of these compounds, named cyclolineinone, was able to suppress inducible nitric oxide synthase (iNOS) and inducible cyclooxygenase (COX-2) protein expression, by blocking transcription factor NF- κ B in J774 macrophage cell lines.

From 1989 to 1998, Virginia Lanzotti has applied NMR spectroscopy in highly innovative ways to nucleic

acids. In collaboration with the group of Professor Cornelis Altona, she has spent long periods in the Netherlands to study unusual conformations of synthetic DNA fragments by advanced NMR and gel-electrophoresis techniques. This work led to a clarification of hairpin loop and cruciform structures.

Since her appointment to the position of Associate Professor at the Faculty of Agriculture of the University of Molise, she has focussed her interest towards phytochemistry. During the last 10 years she has been actively working on the isolation and elucidation of the structure of a large number of bioactive compounds. In particular, she has concentrated on understanding *Allium* chemistry, especially the polar bioactive compounds found in this genus. This work led to the isolation of new bioactive flavonol glycosides, sapogenins, saponins, and dibenzofurans, and to the evaluation of their biological activity. Recently, this research interest has included several plants of the genus *Euphorbia*. Among other findings worthy of mention is the discovery of a class of jatrophone diterpenoids which are potent P-glycoprotein

inhibitors. The most powerful compounds of the series, euphodendroidin D and pepluanin A, outperformed cyclosporin A by a factor of two to inhibit Pgp-mediated daunomycin transport.

In the 20 years of her scientific activity, Virginia Lanzotti has published more than 70 scientific papers, many of them in *Phytochemistry*, *Phytochem. Anal.*, *J. Chem. Soc.*, *Biochim. Biophys. Acta*, *Eur. J. Biochem.*, *FEMS Microbiol. Lett.*, *J. Gen. Microbiol.*, *Biochem. J.*, *Biopolymers*, *J. Biomol. NMR*, *J. Org. Chem.*, *Eur. J. Org. Chem.*, *J. Nat. Prod.*, *Tetrahedron*, *J. Agric. Food Chem.*, *J. Med. Chem.*

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Available online 19 August 2004