

In memoriam – Bruno Biavati (1945–2020)

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The IUMS taxonomic subcommittee for *Lactobacillus*, *Bifidobacterium* and related taxa, is reporting with great sadness the sudden and unexpected passing, on 21 December 2020, of Prof. Bruno Biavati, Professor of Agricultural Microbiology at the University of Bologna, and Affiliate Professor at the University of Malta.



Colleagues and friends all over the world will remember Professor Biavati as an amiable, kind and friendly person, and as a pioneer in microbial taxonomy, especially in the field of the bifidobacteria.

Professor Biavati was born in Italy on the 13th of October 1945. He became interested in the genus *Bifidobacterium* through his mentor and supervisor Professor Vittorio Scardovi. In 1974, he graduated in Agriculture at the university of Bologna with a thesis in Agricultural Microbiology, entitled 'Contribution to the knowledge of bifidobacteria: new physiological groups'. From 1980 to 1981 he performed a postdoc at the Virginia Polytechnic Institute in the U.S., where the Archaea methanogens aroused his keen interest. He was among the first to introduce this research theme in Europe, yet, he could not forget the fascination of the bifidobacteria. Professor Biavati became Associate Professor at the university of Bologna in 1992 and Full Professor in 2000. He was highly respected for his courses in Applied Microbiology, more particularly in General Agricultural Microbiology and

Agro-Environmental Microbiology. Students were always inspired and motivated by his research, and over the years he successfully mentored 15 doctoral and 60 master degree students. After retiring in 2015, he became an Affiliate Professor at the University of Malta where he continued his research and teaching.

As result of his extensive research on the bifidobacteria, Professor Biavati described 29 new species and was author or co-author of 25 book chapters, both in English and Italian. His main interest was not purely taxonomic, but also the physiology and ecology of the bifidobacteria, with e.g. the recent description in 2018 of *Bifidobacterium xylocopae* sp. nov. and *Bifidobacterium aemilianum* sp. nov. from bees [1], *Bifidobacterium aerophilum* sp. nov., *Bifidobacterium avesanii* sp. nov. and *Bifidobacterium ramosum* sp. nov. from the faeces of cotton-top tamarin [2], and *Bifidobacterium catulorum* sp. nov. from the faeces of the baby common marmoset [3]. Professor Biavati was also conducting valuable research and promotion on the use of pro- and prebiotics to replace antibiotics as growth promoters in animals. In addition, the use of beneficial microorganisms and protective cultures in both man and animal should also be remembered as important components of his high-standing and practical contributions.

From 2003 to 2006 Professor Biavati was president of the Italian Society of Agricultural, Food and Environmental Microbiology, from 1999 to 2000 Director of the Institute of Agricultural Microbiology in Bologna and from 2010 to 2012 Deputy Director of the Department of Agricultural Sciences and Technologies in Bologna.

Professor Biavati favoured international collaboration. As one of the first professors at the Università di Bologna he participated in European research projects and many of his papers have been prepared on international collaboration.

Professor Biavati joined the 'Subcommittee on the Taxonomy of *Bifidobacterium*, *Lactobacillus* and Related Organisms' in 1983 and still actively participated at the last physical meeting in Berlin in 2018, and a later online meeting on 3 September 2020, where the splitting of the genus *Lactobacillus* was discussed.

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In recognition of his extensive contribution to the genus *Bifidobacterium*, the species *Bifidobacterium biavatii* was named in his honour in 2012 [4].

Professor Biavati leaves behind his wife and many academics and non-academic friends, all over the world. Not only will he be remembered as an outstanding scientist and mentor, but also as a faithful and warm-hearted friend, who always had a nice word to share, and showed sincere interest in the well-being of all.

Bruno will be greatly missed by his wife and family, his friends, companions, students and colleagues, both in Malta, Italy and around the globe.

We will not forget you.

Members of The Taxonomic Subcommittee for Lactobacillus, Bifidobacterium and related Taxa,

Johanna K. Björkroth, Elke Brockmann, Christine Bonaparte, Leon M.T. Dicks, Akihito Endo, Giovanna Felis, Charles M.A.P. Franz, Wilhelm H. Holzapfel, Paul A. Lawson, Paola Mattarelli, Bruno Pot, Elisa Salvetti, Koichi Watanabe

Funding information

The authors received no specific grant from any funding agency.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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