

Professor Otto Richard Gottlieb A Tribute



Otto Richard Gottlieb was born in Brno, Czechoslovakia, on August 31, 1920, and emigrated to Brazil in 1939. His mother having been born in Petrópolis, RJ (Brazil), he opted for Brazilian nationality. After obtaining a degree in industrial chemistry from the Universidade do Brasil, Rio de Janeiro in 1945, and working in his father's essential oils industry, he joined the Instituto de Química Agrícola in Rio de Janeiro in 1955 where he pursued his major interests in phytochemistry until 1963. In 1964 he was appointed as full professor at the Universidade de Brasília, and was awarded the degree of Doctorate and "Livre-Docente" by the Universidade Federal Rural do Rio de Janeiro in 1966. In 1967, he moved to the Universidade de São Paulo as full professor where he served in the Instituto de Química until 1990. Thereafter, he served as a Visiting Researcher at Fundação Oswaldo Cruz (FIOCRUZ) in Rio de Janeiro until December, 2001. Presently he is Visiting Professor at Universidade Federal Fluminense in Niterói, RJ.

Professor Gottlieb ranks as one of the most influential figures in organic chemistry and the chemistry of natural products in Brazil. Having developed an intense interest in the molecular diversity of the rich Brazilian flora at an early stage of his career, he went on to pioneer the introduction of phytochemistry as a major discipline in Brazil. He established graduate courses and research programs in many Brazilian institutions, including the Federal Universities of Rio de Janeiro, Minas Gerais, Pernambuco, Rural University of Rio de Janeiro, the Universities of Brasília and São Paulo, the National Institute of Research of the Amazon in Manaus, and the Fundação Oswaldo Cruz (FIOCRUZ). He has supervised over 120 graduate students, many of whom now occupy influential positions in Brazilian universities and research organizations. Indeed, he is "well known for building the country's scientific infrastructure, having seeded the faculties of many of Brazil's leading universities and research institutes with more than 100 of his students" (Vieira, *Science* **1999**, 285, 1346).

He has made tremendous contributions to natural product chemistry, both in Brazil and internationally, through the publication of over 650 papers in this area, including articles, book chapters, five books and two patents, as well as more than 1,100 communications to congresses and 652 invited lectures. He pioneered the study of Brazilian biodiversity as a rich source of novel secondary metabolites of potential value in the discovery of new drugs and other bioactive agents, as well as serving as chemotaxonomic markers. The establishment of an interdisciplinary program of chemobiology aimed at rationalizing the evolution, systematics and ecology of plants as a guide to the search for plant-derived bioactive substances, represents a further facet of his broad phytochemical interests. The breadth of his interests are reflected in the 30 selected publications listed below, and his influence on Brazilian science may be judged from the strength of the campaign mounted by the Brazilian scientific community in 1999 to promote his candidacy for the Nobel Prize.

Professor Gottlieb has received many honors in Brazil, including 24 awards, and ten honorary degrees from major universities, and the decoration of the Grã-Cruz da Ordem Nacional do Mérito Científico from the President of Brazil in 1994. He has also received wide recognition internationally, having held visiting positions at institutions in Germany, Israel, the United Kingdom and the United States, as well as the award of an Honorary Doctorate from the University of Hamburg. "His outstanding contributions to our knowledge of the ecogeography, evolution and systematics of secondary plant metabolites" was recognized in the award of the Pergamon Phytochemistry Prize for Creativity in Plant Biochemistry in 1992, and he also received the Third World Academy of Sciences Chemistry Award in 1991. In 2000, two issues of the journal, *Phytochemistry*, were dedicated to him on the occasion of his 80th birthday. The esteem in which Professor Gottlieb is held by the world scientific community may best be summed up by the quotation of Nobel Laureate, Roald Hoffmann, in the *Science* article quoted above: "He is the premier Brazilian organic chemist and one of the world's outstanding phytochemists and biogeochemists as well. His work deserves the highest honors of our profession, including the Nobel Prize."

It is an honor to pay tribute one of the international giants of phytochemistry.

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Selected Publications of Otto Richard Gottlieb

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2. Gottlieb, O. R.; Kaplan, M. A. C.; Borin, M. R. de M. B., *Biodiversidad: Un Enfoque integrado entre la Química y la Biología*, Versión castellana de Alicia B. Pomilio, Artes Gráficas Buschi S.A.: Buenos Aires, Argentina, 2001, p 239.
Gottlieb, O. R.; Kaplan, M. A. C.; Borin, M. R. de M. B., *Biodiversidade: Um Enfoque Químico-Biológico*, Editora UFRJ: Rio de Janeiro 1996, p 267.
3. Cabral, M. M. O.; Azambuja, P.; Gottlieb, O. R.; Kleffmann, T.; Garcia, E. S.; Schaub, G. A., Burchellin: Effects on *Triatoma infestans* and on *Trypanosoma cruzi* within this vector. *Parasitol. Res.* **2001**, *87*, 730.
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