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# **Warwick Estevam Kerr**

Warwick Estevam Kerr (9 September 1922 – 15 September 2018) was a <u>Brazilian agricultural engineer</u>, geneticist, <u>entomologist</u>, <u>professor</u> and <u>scientific leader</u>, notable for his discoveries in the <u>genetics</u> and <u>sex determination</u> of <u>bees</u>. The <u>Africanized bee</u> in the western hemisphere is directly descended from 26 Tanzanian queen bees (*A. m. scutellata*) accidentally released by a replacement bee-keeper in 1957 in <u>Rio Claro</u>, <u>São Paulo</u> in the southeast of <u>Brazil</u> from hives operated by Kerr, who had interbred honey bees from Europe and <u>southern Africa</u>.

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# **Biography**

Kerr was born in 1922 in Santana do Parnaíba, São Paulo, Brazil, the son of Américo Caldas Kerr and Bárbara Chaves Kerr. The Kerr family immigrated by way of the United States. His family is originally from Scotland. The family moved to Pirapora do Bom Jesus, SP in 1925. He attended secondary school and the preparatory course at the Mackenzie in São Paulo and subsequently was admitted to the Escola Superior de Agricultura Luiz de Queiroz of the University of São Paulo, at Piracicaba, São Paulo, where he graduated as agricultural engineer.

From March 1975 to April 1979, Kerr moved to Manaus, Amazonas, as director of the National Institute of Amazonia Research (INPA), a research institute of the National Council of Scientific and Technological Development (CNPq). He officially retired from the University of São Paulo in January 1981, but not from scientific life. Exactly eleven days later he accepted a position as Full Professor at the Universidade Estadual do Maranhão in São Luís, state of Maranhão, where he became responsible for creating the Department of Biology; and, for a short period (1987–1988) served also as Dean of the University. He moved to the Universidade Federal de Uberlândia, in Uberlândia, state of Minas Gerais, in February 1988, as a Professor of Genetics.

## **Scientific contributions**

His scientific life began in Piracicaba, where he received his doctorate (D.Sc) and later was an assistant professor. In 1951, he did postdoctoral studies as a Visiting Professor at the University of California at Davis and, in 1952, at Columbia University, where he studied with the famous geneticist Theodosius Dobzhansky.

In 1958, he was invited by Professor Dias da Silveira to assist in organizing the Department of <u>Biology</u> at the <u>Faculdade de Ciências do Rio Claro</u>, of the recently created State University of São Paulo <u>UNESP</u>, in the city of <u>Rio Claro</u>, where he stayed until 1964, directing a research group on the genetics of <u>bees</u>, his main field of specialization. From 1962 to 1964, he served as the Scientific Director to organize the recently created <u>São Paulo State Research Foundation</u> (FAPESP).

In December 1964, he accepted the position of Full Professor of Genetics at the <u>Faculty of Medicine of Ribeirão Preto</u> of the University of São Paulo, in order to create a new Department of Genetics. In this capacity, Kerr was able to establish a research center of excellence, particularly in the areas of entomological genetics and <u>human genetics</u>, and that trained many masters and doctoral students. The department included a new research and teaching area, that of <u>mathematical biology</u> and <u>biostatistics</u>, the first of its kind in a medical school in Brazil; and was a pioneer in the use of computers in biology and medicine, particularly for genetics applied to animal husbandry.

In all these positions he never stopped his research on <u>Meliponini</u>, especially the genus <u>Melipona</u>, which is a genus of <u>Neotropical</u> bees that are frequently subject to the predatory action of wild honey gatherers (*meleiros* in <u>Portuguese</u>). Kerr became well known for his research on the <u>hybridization</u> of the <u>African bee</u> and the <u>Italian bee</u> (*Apis mellifera ligustica*). Kerr has 620 publications on various subjects. Apart from being a member of the <u>Brazilian Academy of Sciences</u>, he is also a Foreign Associate of the <u>National Academy of Sciences</u> of the USA, and of the <u>Third World Academy of Sciences</u>. He was admitted by President <u>Itamar Franco</u> to the <u>National Order of Scientific</u> <u>Merit</u> at the Grã-Cruz class in 1994.

# **Selected papers**

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