



Prof. Crodowaldo Pavan

Professor Emeritus, Universidade de São Paulo and
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Most important awards, prizes and academies

Awards: Brazilian Prize in Genetics (1963); Moinho Santista Prize - Area Biology (1980); Alfred Jurykowski Prize, Brazilian Academy of Medicine (1986). **Academies:** Pontifical Academy of Sciences; Brazilian Academy of Sciences; Third World Academy of Sciences; Academy of Sciences of Lisbon, Portugal; Academy of Sciences of Chile; Academy of Medicine of São Paulo, Brazil; Istituto Veneto di Scienze, Arti e Lettere; Fisiografica Society of Lund, Sweden; Academy of Letters of São Paulo, Brazil.

Summary of scientific research

1) Areas of scientific work: Population genetics on tropical species of *Drosophila*; cytogenetics and chromosomal physiology on different species of Sciarids; biology and the biological control of animal pests; *Cochliomya hominivorax* (screwworms), *Dermatobia hominis* (human bot fly), and *Musca domestica* (housefly). Nitrogen-fixing bacteria of non-legume plants. These are bacteria that live inside the body (endophytic) of the plant, some of them being obligatory endophytic and others facultative. These bacteria are very common on many families of plants in Brazil. He hoped to find or create an association between plant and specific nitrogen-fixing

bacteria to substitute the use in agricultural practice of artificial nitrogen fertilizers. More recently the study of endosymbiotic bacteria associated to plant seeds and birds' eggs. 2) Other areas of activity. The development of science and technology in Brazil; cooperation in science and technology between countries of the Third World.

Main publications

Dreyfus, A., Nonato, E., Breuer, M.E. and Pavan, C., 'Cromossomos politenicos em vários órgãos de *Rhynchosciara angelae*', *Rev. Brasileira de Biologia*, 2, pp. 435-57 (1951); Pavan, C., Cordeiro, A.R., Dobzhansky, N. & Th., Malagolowkin, C., Spassy, B. and Wedel, M., 'Concealed genic variability in Brazilian population of *Drosophila willistoni*', *Genetics*, 36, pp. 13-30 (1951); Breuer, M.E. and Pavan, C., 'Behavior of polytene chromosomes of *Rhynchosciara angelae* at different stages of larval development', *Chromosoma*, 7, pp. 371-86 (1955); Pavan, C., 'Nucleic acid metabolism in polytene chromosomes and the problem of differentiation', *Brookhaven Symposia in Biology*, 18, pp. 222-39 (1965); Azeredo-Espin, A.M.L. and Pavan, C., 'Karyotypes and possible regions of origin of three species of *Calliphoridae* (Diptera) recently introduced in Brazil', *Rev. Brasileira de Genética*, 4, pp. 619-38 (1983); Pavan, C., 'Chromosomal changes induced by infective agents Triangle', *Sandoz J. Med. Sci.*, 8, pp. 42-8 (1967); Pavan, C., Bieseke, J., Riess, R.W. and Wertz, A.V., 'Changes in the ultrastructure of "Rhynchosciara" cells infected by "Microsporidia"', *Studies on Genetics*, VI, p. 7103 (1971, XIII); Pavan, C., Da Cunha, A.B. and Morsoletto, C., 'Virus-chromosome relationships in cells of "Rhynchosciara" (Diptera, Sciaridae)', *Caryologia*, 24, pp. 371-89 (1971); Pavan, C. and Sanders, P.F., 'Heterochromatin in development of normal and infected cells', *Cell Differentiation* (Munrsgaard-Copenhagen, 1972).