Prof. Thomas Risley Odhiambo
Professor of Insect Physiology and Honorary President, African Academy of Sciences, Nairobi, Kenya

Most important awards, prizes and academies

Gold Mercury International Award for development, social, cultural and economic cooperation (November 1982); Gold Medal Award, International Congress of Plant Protection (December 1983); Co-sharer (with President Abdou Diouf of Senegal) First Hunger Prize for the Sustainable End of Hunger (June 1987); Honorary Degree of Director of Science, University of Mas-sachusetts (April 1990), University of Nigeria at Nsukka (May 1991); Honorary Degree of Doctor of Humane Letters, Johns Hopkins University (May 1991); Honorary Degree of Doctor of Laws, Notre Dame University (September 1991); Albert Einstein Gold Medal, Unesco (April 1991); Freedom of the City of Tuskegee, Alabama, USA (March 1980); TWAS Medal and Lecture (September 1995); the World Bank-IMF-Africa Club Distinguished Scientists Award (October 1998); Order of the Burning Spear, Kenya (December 1998); Organization of African Unity Silver Jubilee Medal (October 1999); Honorary President of the African Acad-emy of Sciences (April 1999). *Academies*: Foreign Fellow, Indian National Science Academy (January 1977); Fellow, Accademia Nazionale delle Scienze of Italy (March 1979); Founding Fellow and Vice-President, Third World Academy of Sciences (November 1983); Founding Fellow and President, The African Academy of Sciences (December 1985); Founding Fellow and Chairman, Kenya National Academy of Sciences

(September 1983); Fellow, Norwegian Academy of Science and Letters (May 1986), World Academy of Art and Science (April 1989), Puerto Rico Academy of Science (December 1987); Foreign Member, Russian Academy of Agricultural Sciences (April 1992); Member of the Pontifical Academy of Sciences.

Summary of scientific research

The main concentration of scientific research over the last thirty years or so in the following problem areas has been:

1. An understanding of the regulatory factors and mecha-nisms of insect reproduction, taking the tsetse (belonging to the genus Glossina) as the experimental target: Tsetse have a very peculiar reproductive biology among insects, in that ovulation, embryonic development, and larval growth and development take place entirely within the mother. The control and timing of each event in this process is therefore complex.
2. Differentiation of cellular tissues in insects under endocrinological influence: Accessory reproductive glands of the desert locust (Schistocerca gregaria) are the preferred experimental material. They are differentiated from a single embryonic anlage into several distinct functional types of glands producing easily differentiated proteinaceous products; the development mecha-nisms responsible for such differentiation are being explored.
3. Science-led development paradigm for Africa, which is culturally-friendly but market-oriented and demand-driven; and reintegrates science into culture.

Main publications

Odhiambo T.R., *Some observations on the natural history of* Acanthaspis petax *Stål* (Hemiptera: Reduviidae) *living in termite mounds in Uganda*. «Proc. R. Entom. Soc. Lond.», (A) *33*, 167-75 (1958); Odhiambo T.R., *Review of some genera of the subfamily Bryocorinae* (Hemiptera: Miriade). «Bull. Brit. Mus., Entom.», *11* (6), 247-331 (1962); Odhiambo T.R., *Growth and hormonal control of sexual maturation in the male desert locust*, Schistocerca gregaria (*Forskal*). «Trans. R. Ent. Soc. Lond.», *118*, 393-412 (1966); Odhiambo T.R., *The metabolic effects of the corpus allatum hormone in the male desert locust*. II. *Spontaneous locomotor activity*. «J. Exp. Biol.», *45*, 51-63 (1966); Odhiambo T.R., *East Africa: Science for development*. «Science», *158*, 876-81 (1967); Odhiambo T.R., *The architecture of the accessory reproductive glands of the male desert locust*. IV. *The fine structure of the glandular epithelium*. «Philos. Trans. Roy. Soc. Lond.», (B) *256*, 85-114 (1969); Odhiambo T.R., *The regulation of ovulation in the tsetse-fly* Glossina pallidipes Austen. «J. Exp. Zool.», *177*, 447-54 (1971); Odhiambo T.R., *International co-operation in the social and life sciences*, pp. 67-80: In: View of Science, Technology and Development (Eugene Rabinowitch and Victor Rabinowitch, eds.). Pergamon Press, Oxford (1975); Odhiambo T.R., *International aspect of crop protection: The needs of tropical developing countries*. «Insect Sci. Applic.», *5* (2), 59-67 (1984); Odhiambo T.R., *Assets of an IPM specialist with particolar reference of Chilo*. «Insect Sci. Applic.», *11* (4/5), 571-6 (1990); Odhiambo T.R., *Designing a science-less future for Africa: A suggested framework*. «Technology in Society», *14*, 121-30

(1992); Odhiambo T.R., *Africa*, pp. 133-46. In: *World Science Report*, UNESCO, Paris (1996); Odhiambo T.R., Research and Knowledge: Natural and Physical Sciences, pp. 584-96. In: *"Encyclopedia of Africa South of the Sahara"*, volume 3 (1997); Odhiambo T.R., Scientific Institutions: Contributions, Inadequacies, Failures, pp. 83-9. In: *Science and Development: Prospects for the 21st Century*, Royal Academy of Overseas Sciences, Brussels (1999).