



The Role of Entomology in the Development of Tropical Africa

A Presidential Address Delivered to the 21st Annual Conference of the Entomological Society of Nigeria at Bayero University, Kano, 9 – 11 October, 1989.

PROFESSOR R. A. BALOGUN
 Entomology Research Laboratory,
 Department of Zoology,
 Obafemi Awolowo University, Ile-Ife.

Nig. J. Ent. 31: 17-19 (2015)

Introduction

On this occasion, I have chosen to speak to you on the topic "The Role of Entomology in the Development of Tropical Africa". This is a very wide and stimulating topic. However, it is one that can be dealt with briefly in this address and one that I hope will generate discussions both during and after this conference. I believe it is pertinent and justifiable for workers who are involved in the science of entomology to periodically examine their role in their environment.

Entomology is a science which deals with the study of insects in all the facets of their lives in relation to the environment, just as "ecology" is the study of living things in relation to their environment. The breadth of the subject contributes to its fascination. It is a hobby and also a profession; indeed for some, it can be both without in any way restricting their intellectual experience. There is hardly any professional entomologist who does not derive his main livelihood through the destruction of insects, or the study of how to destroy insects or the training of younger colleagues who will do the job in later years.

The many facets of entomology mean that it has made impact on mankind in several ways. The object of studying insects does.

However, it affects mankind as a whole: through both health and food supply. In many fields, insects are man's greatest competitors for the domination of this planet. Although entomology is intellectually satisfying in its own right, it has to many if not all of us, the added, perhaps overriding satisfaction of contribution to the alleviation of human suffering and the better management of the biosphere.

The Challenge

The challenge of entomology in tropical Africa is now greater and broader than ever. Indeed, it is not merely that we have learned more about the importance of insects, they have become more important. In order to meet the challenge posed by these insects, the entomologists in tropical Africa can consider themselves entomologists of special circumstances. We are insect scientist in a vast continent that is beset with a large number of very important problems of direct relevance to the people either from the health angle or from the point of view of food or cash crop production.

These problems are peculiar in view of the medical and agricultural conditions in the different countries. I will not attempt to enumerate an unending list of entomological problems throughout tropical Africa. One may mention a few of these problems

just to refresh the memory: the problem of the tsetse flies (*Glossina* spp.), transmitters of the dreaded human sleeping sickness and livestock trypanosomiasis and how they have affected in a very significant manner the development of tropical Africa; the problem of *Anopheles* mosquito, vector of the serious ailment, malaria which is perhaps the most important of all human diseases; the problem of onchocerciasis, an important disease-producing filarial infection causing river blindness in different parts of Africa including Nigeria and transmitted by blackflies of the genus *Simulium*; the problem of voracious locusts such as *Locusta migratoria migratoroides* and *Schistocerca gregaria*; the problem of a wide range of pests on food and cash crops such as millet, cowpea, sorghum, rice, cocoa and cotton; and the colossal post-harvest losses in stored grain and pulses throughout the tropics. These are some of the arrays of problems that entomologists have to grapple with in tropical Africa.

Strategies in the Face of the Challenge

There is no doubt that insect scientists in tropical Africa face distinct challenge and must devise ways of coping with this challenge. One can say with satisfaction that we are achieving some success under difficult circumstances but we should look for ways of improving the level of our contribution to the development of tropical Africa.

There is the need for us to streamline our entomological research activities to meet the changing needs of developing countries in tropical Africa. Efforts should be made to provide multi-disciplinary teams on a broader basis to tackle a wider range of pest and vector problems. In this connection, I wish to refer to the contributions made by the Tropical Development and Research Institute's (TDRI) pheromone teams. In collaboration with the British Industry, they have seen through to commercial application the first use of a pheromone to manage a pest in a developing African country, namely that of *Pectinophora gossypiella* (Pink bollworm) on Egyptian cotton.

The use of pheromones for monitoring pest populations is also of interest to a number of entomological research laboratories in tropical

Africa including Nigeria, and various research teams are investigating this aspect in a number of insects, e.g. *Spodoptera exempta* (Armyworm) in East Africa, and several species of *Glossina* (tsetse fly) in Nigeria and Zimbabwe. The behavioural responses of insects to pheromone plumes are studied both in the laboratory and with remote sensing devices at night in the field in order to optimize trap designs and for early detection of the presence of pest infestations.

The *Simulium damnosum* complex that transmits the diseases of 'River Blindness' in West Africa is also a target in collaboration with the WHO Onchocerciasis Control Programme.

In the post-harvest field, entomologists in tropical Africa are active in aspects of the recognition, biology and control of storage pests. A problem currently in focus is the spread of the bostrichid pest of stored maize and cassava in Tanzania, *Prostephanus truncatus* (larger grain borer). Previously known only from Central America, this pest has been identified in Central Tanzania from where, since 1980, it has reached Kenya and neighbouring countries. More recently it has also been found in Togo. A TDBI team is making an intensive effort to restrict its further spread.

Dried fish is an important protein source in many developing tropical African countries. Entomologists have been concerned to develop safe treatments to prevent both immediate blowfly damage and longer-term attacks; on the dry products by *Dermestes* species and *Necrobia rufipes*. A range of insecticides is being tested in various laboratories and in the field in tropical Africa to obtain control within reasonable residue limits.

There is no doubt that entomologists in tropical Africa have an ever-increasing role to play in the future of tropical agriculture and health. And there seems little doubt that entomology, as a discipline, will continue to make its contribution to solving the problem of the Developing Tropical African World.

Fellow Entomologists of Nigeria, Ladies and Gentlemen, as this is my first formal address to an annual conference of the Entomological Society of Nigeria since I assumed office as President of the

Society in October, 1988, I wish to seize this opportunity to thank you immensely for the confidence you reposed in me by electing me President. I thank you all for your cooperation during the year.

The philosophy of the present Council of the Society is to review our activities in order to make the Society more effective. It is a matter of great regret that our main publication, namely, the *Nigerian Journal of Entomology* was published last in 1985 due to a number of constraints, the most important of which is lack of funds. I believe that such a vital activity of the Society as the prompt and constant issue of our publications, notably the *Nigerian Journal of Entomology* should not, as it now painfully happens, be characterised by uncertainty. In his Presidential Address to the Royal Entomological Society of London on March 5, 1969, Professor J.S. Kennedy, F.R.S. - stated as follows: "The Society's publications are its principal activity, its main source of income apart from subscriptions, and its shop-window on the world of science". When a Society has difficulty in producing issues of its learned journals, my view is that such a Society has little to show for its existence.

Our Society's publications should portray our scientific dynamism and represent our mirror

image both nationally and internationally. The present Council of the Society has resolved that all hands must be on deck to ensure that volume 7 of the *Nigerian Journal of Entomology* is in print early in the new year.

The fact remains that we have founded a national Entomological Society which has been in existence for twenty four years; we should all be prepared to ensure its viability by our own dedication, personal sacrifice, especially in monetary gifts. We need to effect a change now to sustain the Society so that when we celebrate the Silver Jubilee Anniversary in 1990, we shall have cause to congratulate ourselves as practical men who translate brilliant ideas into realities. There is no organisation or establishment that does not experience its dark days during its existence. The journey towards achieving our goal may be rough but we must press on until we achieve the declared objective of the Society - "To promote and develop the study of entomological science in Nigeria".

Fellow Entomologists of Nigeria; as we move into the 1990's, our Society faces an enormous challenge, both educationally and financially. We can be equal to that challenge only by commitment and tenacity of purposes.

Finally, distinguished ladies and gentlemen, I thank you all for listening to this address.

