

Bee World

the international link between beekeeping science and practice

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GOLDEN JUBILEE
1948-1999

IBRA



INTERNATIONAL
BEE RESEARCH
ASSOCIATION

GOLD MEDAL WINNER
APIMONDIA XXVI 1999



Manning award for innovation (1997); an NSERC senior industrial fellowship (1995); the gold medal of the Science Council of British Columbia (1992); and a Fulbright fellowship (1986).

Recently, Winston received the prestigious Killam fellowship (1999–2001) which he will be using to continue his ongoing investigation of bee pheromones that are produced by queen honey bees to maintain social order within the colony. As a result of their collaboration, Winston and Slessor were able to develop two commercial products: Fruit Boost and Bee Boost. The products increase the pollination effectiveness of bees, as well as allow beekeepers to control bee behaviour.

At present, Winston is searching for a biologically-based method of controlling infestations of varroa in honey bee colonies throughout the world. His research fulfils a critical void in the study of how to manage rather than to damage the environment. Winston is dedicated to finding ecologically-based and sustainable pest management strategies.

Simon Fraser University is embarking on a human resource capital campaign to support and advance such innovative research. By establishing a \$CN1 million endowed professorship in environmental biology, SFU will enable Winston to take his important research, writing and public communication programmes to new heights. He will also attract long-term research fellows and world-renowned visiting professors, host high-level symposia on key issues, and promote a collaborative research approach with industry and community agencies that will ultimately help to address some of today's most pressing environmental problems.

If you are interested in participating or contributing to this important endowment

at Simon Fraser University, please contact: Christine Arnet, University Advancement, SFU, 2218 Strand Hall, 8888 University Drive, Burnaby, BC, V5A 1S6.
E-mail: arnet@sfu.ca
web: www.sfu.ca/advancement/

Jerzy Woyke — doctor honoris causa

Prof. Dr J Woyke has been an IBRA member for 35 years and has been IBRA's regional representative for Poland since 1965. In December 1998 he was awarded the title *doctor honoris causa* by the Agricultural University in Szczecin, Poland. The title was granted for his contribution to science.

Prof. Woyke proved, with other bee scientists, that a queen honey bee is mated with by several drones during the mating flight. He worked out a method to inseminate queens instrumentally with 8 mm³ of semen and now this method is used all over the world. He showed that queens cannot be caged alone after instrumental insemination, as was practised, but must be assisted by workers. He studied the problem of sex determination in honey bees and has worked extensively on sex alleles and diploid drones. Diploid drone larvae are eaten by workers within 6 h after hatching due to a cannibalism substance. Next he worked out a method for rearing diploid drones to adults. Diploid drones produce diploid spermatozoa — a unique phenomenon in the animal kingdom. After Prof. Woyke presented the first results of this investigation at the XIX Apicultural Congress in Prague, the chairman, Prof. Ruttner, paid a rare compliment by saying 'if he had heard nothing at the Congress but this report by Dr Woyke, he would consider his journey to Prague worth while.' (*Bee World* 44(4): 168).



In India Prof. Woyke has investigated natural and instrumental insemination of *Apis cerana*. He found that unlike *A. mellifera* drones, which produce 1.2 mm^3 of semen, *A. cerana* drones produce only 0.2 mm^3 of semen. *A. cerana* queens must be inseminated instrumentally twice with 3 mm^3 of semen, which can be collected from 30 drones.

Prof. Woyke has also studied the question of body colour heredity in the honey bee. He proved the existence of three major body colour genes, which are modified by several modifiers. He showed that the expression of body colour in Asian honey bees is different in the two sexes (in *A. florea*, queens and workers are yellow-black and drones are exclusively black), and in different castes (in *A. cerana*, workers are yellow-black and queens are black).

Later he showed that the mite, *Tropilaelaps clareae*, devastating *A. mellifera* in south-east Asia, can reproduce and live on bee brood, however it cannot survive for more than 2–3 days on adult bees. On this basis he worked out a method to control these mites without chemical treatment by either interrupting brood rearing for three weeks, or by removing all sealed brood

and putting it into another queenless hive, and all mites will die.

Recently Prof. Woyke showed that honey bee eggs change their size during the whole period of incubation.

Prof. Woyke has applied his apicultural knowledge not only in Poland, but also as an FAO consultant in 11 countries of Central America, Africa and Asia. He also conducted 11 longer courses on instrumental insemination and bee breeding in different countries. He has also given many lectures in 38 countries. A list of his publications, and some figures concerning the heredity of colour in bees can be found on this web page: <http://www.sggw.waw.pl/~woyke/>.

Cameroon beekeeping project in Devon

Two beekeepers, Monica Beri and Marguerite Kaldja from Cameroon, spent six weeks this summer carrying out practical work on a honey farm in Dorset, under the auspices of BESO volunteer and honey farmer, Oliver Field.

The practical work covered managing a modern movable-frame hive, controlling swarming and handling queen rearing and grafting of larvae. They also learnt how to extract honey with a centrifugal extractor, and to pack it into honey jars ready for sale.

On their return to Cameroon the women will set up two beekeeping centres, one at Kumbo (English speaking Cameroon) and one at Baffoussan (French speaking), where modern bee farming can be studied. It is planned that a network of training will flow out from these centres and improve local honey production, both in quantity and quality.