IIBC/Imperial College International Training Course

Biological Control of Arthropod Pests & Weeds

22nd April - 17th May 1996 Silwood Park, Ascot, UK



Course Aims

This 4 week intensive course forms a specialist option in the MSc in Pest Management at Imperial College of the University of London. It is run in conjunction with the International Institute of Biological Control and is also available as a fee-paying course for external participants. Participants will learn:

- the principles and basic methodology of biological pest control as the core component of an IPM programme
- how and when to: conserve native predators and parasites/introduce new

ones from the native habitat of exotic pests/rear or

culture natural enemies for field release

Course Methods

The course is structured around practical skills sessions including field and laboratory experiments; participatory workshops; and informal lectures, with an emphasis on "hands on" training. Participants will also take part in information gathering exercises and group presentations. External participants will be provided with IIBC's Biological Control Training Manual and will receive a Certificate in Biological Control on successful completion of the course.

Course Content

Ecological basis of biological control
Using natural enemies in biological control
Biological control with insect pathogens
Biological control of weeds and plant diseases
Farmer training in biological control
Proposing projects and funding for biological control
Information sources

Who should attend?

Participants should ideally have a first degree in agriculture or biological sciences and/or practical field experience in this area. The course is suited to agricultural researchers and extensionists, including crop protection staff who wish to broaden their knowledge of pest management. It is also relevant to staff from forestry and conservation departments and from non-governmental agencies involved in rural farming or forestry programmes.

For more details of course, fees, accommodation and an application form, please contact: **Stephanie Williamson**, Training & Information Officer IIBC, Silwood Park, Buckhurst Road, Ascot, Berkshire U.K. SL5 7TA Tel. +44 1344 872999 Fax +44 1344 875007 e-mail s.williamson@CABI.org

NOTES FOR AUTHORS

The *Bulletin of Entomological Research* publishes original research papers concerning insects, mites, ticks or other arthropods of economic importance in agriculture, forestry, stored products, biological control, medicine, animal health and natural resource management. The geographical scope of the *Bulletin* is worldwide but with emphasis on the tropics. Taxonomic papers are accepted if relevant. Short review papers, although normally by invitation, will also be considered for publication.

Page Format. The *Bulletin* is printed in a two-column format (column width of 80 mm) with a text area of 170×225 mm.

Text. Papers should be typed, on one side of the paper only, with double line spacing and ample margins (at least 1.5 cm) on each side and with no underlining or bold in text except for scientific names. Draft quality print from a word-processor is not acceptable. Standard abbreviations (e.g. fig. and figs) and metric units must be used. Guidelines for taxonomic papers are available.

When the paper has been accepted word-processed text stored on floppy disk is encouraged, providing the software is IBM/DOS compatible, but floppy discs must be accompanied by a hard copy. This will enable papers to be handled rapidly, and with fewer type-setting errors.

Abstract. Each paper must commence with a carefully prepared, accurate, informative abstract, in one paragraph, that is complete in itself and intelligible without reference to text or figures. It should not exceed 250 words. A short title should be provided as a running head.

Tables. Tables should be reduced to the simplest form, and should not be used where text or illustrations give the same information. They should be submitted on separate sheets at the end of the article and must fit conveniently into single column, full width or landscape (if absolutely necessary) format. Table captions should be typed on a separate sheet.

Illustrations. Copies only of artwork should be submitted. The original illustrations should accompany the paper after acceptance and revision. Text figures, line drawings, computer-generated figures and graphs should be of sufficient size and quality to allow for reduction by half or two-thirds. Half-tone photographs are acceptable where they are a real contribution to the text. Figure and captions should be typed on a <u>separate sheet</u>

in the following format:

Figs 23–26. Figs 23–24, <u>Urophora</u> eggs: 23, <u>U. hispanica</u>; 24, <u>U. stigma</u>. Figs 25–26, spermathecae: 25, <u>U. maura</u>; 26, <u>U. stigma</u>; scale lines=0.05 mm.

Voucher specimens. The deposition of voucher specimens should be considered where appropriate.

References. References must be based on the name and year system, give full journal titles and conform to the following styles:

Powell, W. (1986) Enhancing parasitoid activity in crops. pp. 319–340 in Waage, J. & Greathead, D. (Eds) Insect parasitoids. London, Academic Press (Symposium, Royal Entomological Society of London No. 13).

Southwood, T.R.E. (1978) <u>Ecological methods with</u> particular reference to the study of insect populations. 2nd edn. 524 pp. London, Chapman & Hall

Zhou, X., Carter, N. & Mumford, J. (1989) A simulation model describing the population dynamics and damage potential of the rose grain aphid, Metopolophium dirhodum (Walker) (Hemiptera: Aphididae), in the UK.

<u>Bulletin of Entomological Research</u> 79, 373–380.

Citation of authors in the text should appear in the form: Polaszek (1990) or (Polaszek, 1990). More than one author should be cited in chronological order as: (Holloway et al., 1987; Walker & Huddleston, 1988).

Offprints. 50 copies of each paper are provided free to the author (or major author) of each paper. Further copies may be obtained on payment, and the number required should be specified and ordered at proof stage.

Manuscripts. Three copies of the manuscript and artwork should be submitted to:

The Editor
Bulletin of Entomological Research
International Institute of Entomology
56, Queen's Gate
London
SW7 5JR, UK.

Bulletin of Entomological Research

Booth, R. G., Cross, A. E., Fowler, S. V. & Shaw, R. H. The biology and taxonomy of Hyperaspis pantherina (Coleoptera: Coccinellidae) and the classical biological control of its prey, Orthezia insignis (Homoptera: Ortheziidae)
Davies, C. R., Cameron, M. M. & Llanos-Cuentas, E. A. The distance of attraction of a human bait to Lutzomyia verrucarum (Diptera: Psychodidae) in crops
Dillon, G. E. & Fitt, G. P. Reassessment of sampling relationships for <i>Helicoverpa</i> spp. (Lepidoptera: Noctuidae) in Australian cotton
Furlong, M. J., Pell, J. K., Ong, P. C. & Syed, A. R. Field and laboratory evaluation of a sex pheromone trap for the autodissemination of the fungal entomopathogen <i>Zoophthora radicans</i> (Entomophthorales) by the diamondback moth, <i>Plutella xylostella</i> (Lepidoptera: Yponomeutidae)
Gryaznov, A. I. Age-grading in blackflies (Diptera: Simuliidae) by ovariolar morphology
Gunasekera, M. B., de Silva, B. G. D. N. K., Abeyewickreme, W., Subbarao, S. K., Nandadasa, H. G. & Karunanayake, E. H. Development of DNA probes for the identification of sibling species A of the <i>Anopheles culicifacies</i> (Diptera: Culicidae) complex
Ho, S. H. & Boon, K. S. Spatial distribution of flying <i>Tribolium castaneum</i> (Coleoptera: Tenebrionidae) in a rice warehouse
Jembere, B., Obeng-Ofori, D., Hassanali A. & Nyamasyo G. N. N. Products derived from the leaves of <i>Ocimum kilimandscharicum</i> (Labiatae) as post-harvest grain protectants against the infestation of three major stored product insect pests
Kfir, R. Parasitoids of the African stem borer, <i>Busseola fusca</i> (Lepidoptera: Noctuidae), in South Africa
Kimani, S. W. & Overholt, W. A. Biosystematics of the <i>Cotesia flavipes</i> complex (Hymenoptera: Braconidae): interspecific hybridization, sex pheromone and mating behaviour studies
Mesfin, T., Den Hollander, J. & Markham, P. G. Feeding activities of Circadulina mbila (Hemiptera: Cicadellidae) on different host-plants
Riley, J. R., Reynolds, D. R., Smith, A. D., Edwards, A. S., Zhang, XX., Cheng, XN., Wang, HK., Cheng, JY. & Zhai, B. P. Observations of the autumn migration of the rice leaf roller <i>Cnaphalocrocis medinalis</i> (Lepidoptera: Pyralidae) and other moths in eastern China.
Sutcliffe, J. F., Steer, D. J. & Beardsall D. Studies of host location behaviour in the black fly Simulium arcticum (IIS-10.11) (Diptera: Simuliidae): aspects of close range trap orientation
White, N. D. G., Demianyk, C. J., Kawamoto, H. & Sinha, R. N. Population growth of Cryptolestes ferrugineus and C. pusillus (Coleoptera: Cucujidae) alone or in competition in stored wheat or maize at different temperatures.
Yong, H. S. Genetic differentiation and relationships in five taxa of the <i>Bactrocera dorsalis</i> complex (Insecta: Diptera: Tephritidae)
Zhang, ZQ. & McEvoy, P. B. Responses of ragwort flea beetle <i>Longitarsus jacobaeae</i> (Coleoptera: Chrysomelidae) to signals from host plants
Book Reviews
Erratum (Vol. 85(2))

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