INTERNATIONAL ORGANIZATION FOR BIOLOGICAL CONTROL

Newsletter No. 1 March, 1972

The 5th General Assembly of the International Organization for Biological Control (IOBC), meeting at the FAO Headquarters in Rome on 30th March 1971, decided unanimously to expand its activities to cover the whole world by adopting a new set of Statutes and electing a new world council which began its work immediately. The International Union of Biological Sciences (IUBS), of which IOBC is an affiliated Commission, took the initiative in promoting this development, which was agreed upon in principle at an international meeting of 34 specialists from 22 countries arranged by IUBS in Amsterdam in November 1969.

Under the auspices of the global organization, biogeographically based regional sections have also been agreed upon. These will have a considerable measure of autonomy and will carry out much of the practical work of the organization. The former West-European, Mediterranean and Middle-East members of IOBC form the core of the West Palaearctic Regional Section together with new members from other countries in that region. A Western Hemisphere Regional Section and a South and East Asian Regional Section were established and admitted in Rome. Plans are under way for other regional sections, particularly for the East Palaearctic, African and South Pacific regions.

The Executive Committee of IOBC consists of:

President	Paul DeBach
Vice-Presidents	E. Biliotti, F. Wilson
Secretary-General	V. Delucchi
Treasurer	F.J. Simmonds

The Statutes of IOBC and application forms for membership can be obtained from the Secretary-General: Prof. Dr. V. Delucchi, Entomologisches Institut der ETH, Universitatsstrasse 2, 8006 Zurich, Switzerland. The Statutes have been published separately in PANS, Vol. 17, No. 3, pp. 401-407, September 1971.

It is proposed to circulate a global newsletter of IOBC to members every six months. Regional Sections may also issue separate newsletters reporting their activities and new developments in biological control in their areas. For the benefit of members in other regions information of world-wide interest appearing in the sectional newsletters will be included in the global newsletter.

West Palaearctic Regional Section

Council

President	E. Biliotti
Vice-Presidents	G. Mathys, M. Pavan, H. Steiner
Secretary-General	L. Brader
Treasurer	W.E. Van den Bruel
Members	J. Bergerard, C. Dafauce Ruiz, M. Hafez, J.S. Kennedy, P.A. Mourikis
Deputies	Mme Z. Düsgünes, G. Magalhaes Silva, V. Vasiljevic

The first meeting of the Council was held in Paris on 22nd and 23rd November 1971. The activities of the different working bodies were discussed in detail.

The Commission on Taxonomy of Entomophagous Insects is anxious about the continuing decrease, since 1969, in the number of insect samples sent to the Identification Centre. It proposes to study the possibilities of encouraging ecological and faunistic research in order to enlarge the knowledge of entomophagous insects.

At present ENTOMOPHAGA has more than 1000 subscribers; 450 copies are distributed to OIBC and 260 charged to WPRS for the Member Institutes. The Commission on Publication and Information has published Mem. Hors Serie No. 5 of ENTOMOPHAGA: "The aphids of France and their hosts (Hom., Aphididae)" by P. Stary, G. Remaudiere and F. Leclant.

The communications presented at the IOBC Symposium on Borers of Graminaceous Crops, held in Paris on the occasion of the International Congress of Plant Protection, have been published in three different journals and the reprints will be regrouped in a separate bulletin.

The biennial meeting of the Commission on Insect Pathology and Microbial Control was held at the same time as the Symposium on Invertebrate Pathology in Montpellier (France). The Commission plans a meeting in March 1973, probably in Gembloux, on a theme dealing with one or more sections of insect pathology and microbial control.

The Commission on Integrated Control has created two new Groups in 1971: a Study Group on Integrated Control in Brassica Crops and a Study Group on Integrated Control of Soil Pests.

The Working Group on Integrated Control in Orchards has published a new pamphlet in the series of Integrated Control in Apple Orchards; two others are in preparation. The Group remarked during its meeting in Leiden in September 1971 that integrated control in orchards was feasible but the problem of formulation of guide-lines had to be resolved.

Reduction of the number of objectives and the search for more simple methods will be necessary to enlarge the efficacy of the Group on Biological Control of Olive Pests. These and other points will be discussed in a meeting in 1972.

Besides the usual activities, the Group on Biological Control of Citrus Scales will try to start a study on practical biological control of various Homoptera in Corsica, and to co-ordinate with the Spanish Government for the establishment of a feasible working programme on Aleurodidae.

The Group on Genetic Control of *Carpocapsa* and *Adoxophyes* took advantage of the presence of American and Canadian specialists at its meeting in Montfavet (France) in November 1971, to proceed with a critical analysis of the results obtained and a review of future activities.

Collaboration between members of the Group on Genetic Control of *Rhagoletis cerasi* has led to considerable progress; experimental releases will be made in the near future. The Group will publish a monograph on *Rhagoletis cerasi* in 1972.

A standardized method of rearing was established by the Group on Genetic Control of *Ceratitis capitata*. By adopting this rearing method the Group can start joint programmes, worked out during their meeting in Wadenswil (September 1971), on the study of the behaviour of laboratory-reared insects. At the same time research on the estimation of populations in the field and their fluctuations will be intensified. Experimental releases on a small scale are expected in the near future.

For the Group on Integrated Control in Mediterranean Pine Forests it will be necessary to undertake detailed research, especially concerning life-tables, before a biological control programme against *Thaumetopoea pityocampa* can be attempted in the region of Mora de Rubielos.

The first contacts between specialists in the Group on Integrated Control in Cotton Growing have been made. The first meeting will be held in 1973.

The field of action in integrated control in the soil is very complex. The group decided to hold the first work session in Wageningen in spring 1972. The Group on Integrated

Control in Brassica Crops will limit its research to vegetables and seeds. A survey will be made of the economic importance of Brassica crops in each country of the WPRS. The Group will meet at the same time as the group on Genetic Control of *Hylemyia* in March 1972 in Wageningen, where the present methods will be analysed on their merits.

In 1971 the Section patronised eleven meetings of its working groups, for 1972 also eleven meetings are planned. On an average the Commissions, Working and Study Groups meet about once every two years. Persons interested in details about these sessions are invited to write to the Secretary-General:

Dr. L. Brader,
Instituut voor Plantenziektenkundig Onderzoek,
Binnenhaven 12,
WAGENINGEN,
Netherlands

Western Hemisphere Regional Section

Council

President	F.D. Bennett
President-elect	G. Oscar Beingolea
Vice-Presidents	J. McB Cameron and C.B. Huffaker
Secretary-Treasurer	W.H. Whitcomb
Corresponding Secretary	J.S. Kelleher

The first newsletter of WHRS appeared in October 1971. It reported a total membership of 274 including 32 from Brazil alone.

Canadian Projects for Biological Control Work in Developing Countries

An informal meeting was organised by Prof. Dr. B.P. Beirne, Director of Simon Frazer's Pestology Centre at Burnaby, B.C., Canada on 29th and 30th August 1971 to advise the Canadian International Development Research Centre on possible Canadian aid in controlling pest damage by non-chemical methods in the developing areas of Africa, Asia and South America. It was attended by Dr. F.J. Simmonds, Director, CIBC, Prof. Dr. V. Delucchi, Secretary-General, IOBC and Prof. Dr. M. Laird, Memorial University, Newfoundland, together with officials of IDRC and staff of the Pestology Centre. The meeting emphasised the control of graminaceous stem-borers and of vegetable pests and that of biting flies and other insect vectors of diseases of man and livestock. Biological control of snails

and weeds, particularly aquatic weeds, was also discussed. Detailed plans and estimates for work on specific projects are being prepared for consideration by CIDRC.

Canadian Aid for CIBC West Indian Station

The Canadian International Development Agency has made a grant of $ 100,000 (Canadian) to CIBC to build additional laboratory accommodation at the West Indian Station. Architects' plans have been drawn up and it is hoped that construction will start soon. This will enable expansion of work in this general area.

Supporting Membership of I.O.B.C.

The following organizations have joined the I.O.B.C. as supporting members:

International Center for Biological Control,
University of California, Berkeley and Riverside.

Rincon-Vitova Insectaries Inc.,
P.O. Box A, Rialto, California.

Conference on the Systematics of *Trichogramma*

A conference on the systematics of the genus *Trichogramma* was held at Columbia, Missouri on 25th November, 1970. In attendance were Dr. Sudha Nagarkatti (Commonwealth Institute of Biological Control), Dr. Jan Kot (Institute of Ecology, Poland), Dr. Wolfgang Quednau (Laboratoire des Recherches Forestieres, Canada), Dr. Norman Marston, Mr. Lawrence Ertle and Dr. Frank Parker (all of the Biological Control of Insects Research Laboratory, U.S.A.). The purpose of this meeting was to review the present classification of the genus and to establish criteria for future investigations.

The three persons directly involved with systematic studies will accept and identify specimens from their zoogeographic regions. Dr. Nagarkatti will be responsible for the Oriental, Australian and Ethiopian regions, Dr. Kot will identify specimens from the Palaearctic region, and Mr. Ertle will cover the Nearctic and Neotropical regions.

The U.S. National Museum was chosen as depository for holotypes of all new species. Paratype material will be deposited at the following institutions: British Museum of Natural History; Academy of Sciences, Leningrad; California Insect Survey, Berkeley; Indian Agricultural Research Institute, New Delhi. In addition, the three persons directly involved with systematics will receive paratype material from the same colony as the holotypes.

Live parasitised eggs for establishment of a colony are preferred for identification; however, specimens received for identification mounted on glass slides in Hoyer's or balsam with the genital capsule dissected out, or preserved in 70% alcohol will be accepted.

Catalogue of the Ichneumonidae of the World

A series of catalogues of the Ichneumonidae of the world is nearing completion. These include all references for each species and all host records. The list of separate volumes is as follows:

Nearctic Region, by Henry Townes, 1944-45. Mem. Amer. Ent. Soc. No. 11. A later abridged catalogue was also published in 1951, in U.S. Dept. Agri. Monog. No. 2.

Oriental and Australian regions, by Townes, Townes & Gupta, 1961. Mem. Amer. Ent. Inst. No. 1.

Eastern Palaearctic Region, by Townes, Momoi & Townes, 1965. Mem. Amer. Ent. Inst. No. 5.

Neotropic Region, by Townes & Townes, 1966. Mem. Amer. Ent. Inst. No. 8.

Ethiopian Region, by Townes & Townes. In preparation.

Western Palaearctic Region, by Joachim Oehlke & collaborators. In preparation.

A second series of volumes gives a treatment of the Ichneumonid genera of the world. This is by Henry Townes and is contained in Mem. Amer. Ent. Inst., Nos. 11, 12, 13 & 17. The genera of the subfamily Ichneumoninae are not yet published. These would require a fifth volume.

These books will give biological control workers a complete record of the literature and a taxonomic treatment of all the known genera.

Biologische Bundesanstalt für Land - und Forstwirtschaft Institut für Biologische Schädlingsbekämpfung, Darmstadt

The Laboratory for Biological Pest Control (Institut für Biologische Schädlingsbekämpfung) has moved into a new building after 18 years' work in a most romantic, but equally impractical, estate. The new address is:

61 Darmstadt,
Heinrichstrasse 243,
Federal Republic of Germany

The institute is situated at the eastern edge of Darmstadt, on the street leading to the Aschaffenburg. On 2 hectares of ground owned by the Federal Department of Agriculture two buildings have been constructed: the four floors of the main building serve for administration, general offices, microbiology, insect pathology, and rooms for all 9 research staff. An attached side-building houses isolated laboratories for pathogen production, workshops, garages, and special rooms for receiving and rearing entomophagous arthropods. Under construction are an insectary and greenhouses. The total staff has increased to 29. An experimental garden of 1.4 hectares serves for small field experiments on various cultivated plants. It is hoped that the greenhouses and special equipment will be ready in the course of 1972. This new construction reflects official recognition that biological and integrated control measures in plant protection deserve intensive efforts, even in temperate climates.

The following new book on biological control has appeared:

Franz, J.M. & Krieg, A. : Biologische Schädlingsbekämpfung. - 208 pages, 27 figs., P. Parey- Verlag, Berlin (DM 24,--).

This book has been written for the information of all those interested in the control of pest organisms, mainly pest arthropods. It illustrates principles and gives timely examples. The simple language of this pocket-sized book intends to inform students and general ecologists of the present possibilities and limitations of modern biological control. Chapter headlines are: natural balance or pest control; population dynamics and its causes; the methods of non-biological pest control; physical, chemical and cultural control; specific qualities of biological methods; characteristics of beneficial organisms; ways of their application; use of vertebrates; fish - amphibians - birds - mammals; use of arthropods: importation of beneficial arthropods - furthering of entomophagous arthropods - mass application of entomophagous arthropods; use of nematodes and snails; use of pathogens - microbial pest control: microbial control of vertebrates - microbial control of insects - microbial control of microbes; biological weed control: native weeds - imported weeds - European problems; autocidal control: introduction - the principle of the method - natural incompatibility - sterilization by radiation - sterilization by chemicals - translocation and other genetic mechanisms - practical steps; biotechnical methods: physical stimuli - chemical stimuli:

integrated pest control: discussion of terms - the injury thresholds - choice of methods - the transition from coventional to integrated control - integrated control in house gardens; review and outlook.

Symposium on Increasing the Biological Contribution to the Control of Pests and Diseases

This symposium was held at Oxford on 4-7 January 1972, organized by the British Ecological Society, the Association of Applied Biologists and the Society of Chemical Industry (Pesticides Group) on behalf of the Royal Society's Subcommittee on Biological Control. Over 400 scientists participated. There were 24 lectures during the four days, the subjects discussed were of very wide range, covering many of the diverse biological forms of pest control and various ecological aspects. This symposium was unique in British experience, and possibly no symposium elsewhere has covered such a wide field. It brought together specialists in different fields of biological control (in its widest sense), together with others from the chemical industry, agriculture, and conservation interests. The symposium did a great deal to clarify differences in approach, and there was a general atmosphere of collaboration towards the common aim of attaining more rational pest control. The proceedings will be published by Blackmans about the end of this year.

Second International Symposium on Biological Control of Weeds

This symposium was held at Rome from 4th to 7th October, 1971 and attended by over thirty participants from thirteen countries. Inaugurating the symposium Dr. F. Albani, Director, Plant Production and Protection Division, FAO referred to the problems created by the widespread use of pesticides and assured the participants of FAO's interest in promoting biological and integrated control of pests. Twenty papers reporting the results of recent research investigations and reviewing the progress in biological control of weeds in various parts of the world were presented. Their titles were: Review of progress of biological control of weeds in Australia, including *Lantana*, Crofton weed, Noogoora burr, and *Baccharis*; the biological control of weeds with insects in the United States; weed vulnerability to damage by biological control agents; beneficial insect or plant pest?: the regulatory agency's dilemma; conflict of interests; selection and weed biological control organisms; some aspects of the biological control of aquatic weeds; competitive co-existence of phytophagous insects in the flower heads of *Carduus nutans*; biological control of weeds in India: a review of introductions and current investigations of natural enemies; progress in the biological control of *Lantana camara* in East Africa and discussion of problems raised by the unexpected reaction of

some of the more promising insects to *Sesamum indicum*; recent work on the assessment of the biological control potential of the *Chondrilla* organisms; insects associated with *Halogeton* and *Salsola* in Pakistan with notes on the biology, ecology and host-specificity of the important enemies; the powdery mildews as potential biological control agents of skeleton weed, *Chondrilla juncea* L.; report on the status of the rust *Uromyces rumicis* introduced into quarantine as a control agent for curly dock *Rumex crispus*; the specificity and host specialization of certain insects and a mite living on *Chondrilla juncea* L.; specialization of the *Chondrilla* fungi; seed production and dormancy in plants of weedy species which have been damaged by mechanical or biological means; detection of sibling species by Allozymes; a comparison of strategies for screening biological control organisms; *Metzneria paucipunctella*, a potential insect for the biological control of *Centaurea stoebe* in Canada.

The technical sessions closed with a colloquium. Arrangements for publication of the proceedings are being made by Mr. Paul H. Dunn (U.S. Department of Agriculture), Chairman of the symposium. Further particulars of this publication will be announced later.

The proceedings of the first symposium held at Delemont, Switzerland, in 1969 have appeared as Miscellaneous Publication No. 1 of the Commonwealth Institute of Biological Control. It contains fifteen papers dealing with biological control projects in various parts of the world, concerning such diverse genera as *Chondrilla*, *Cuscuta*, *Euphorbia*, *Myriophyllum*, *Orobanche*, *Rhamnus*, *Rosa*, *Rumex*, *Solidago* and *Ulex*. These are followed by introductory papers and discussion on the following: Problems involved in host-specificity and screening tests; the assessment of the biological control potential of organisms for controlling weeds; problems in searching for and collecting control organisms; possibilities of co-operation. Copies can be obtained from the Commonwealth Agricultural Bureaux, Central Sales, Farnham Royal, Farnham House, Slough SL2 3BN, England. Price £ 2.

The Third International Symposium on Biological Control of Weeds is scheduled for 1973 at Montpellier, France, under the chairmanship of Dr. A.J. Wapshere.

Commonwealth Institute of Biological Control - Report for 1971

During 1971 the eight Stations of the CIBC worked on 111 biocontrol projects and shipped a total of 1,195 consignments of natural enemies, comprising 192 species and nearly 5.6 million beneficial insects etc., to 46 countries. The countries using the services of CIBC were: Antigua, Australia, Barbados, Bolivia, Botswana, Brazil, British Honduras, Canada, Cayman

Islands, Ceylon, Dominica, Fiji, Gilbert and Ellice Islands, Ghana, Grenada, Guam, Guyana, Hong Kong, India, Israel, Jamaica, Kenya, Malagasy, Malaysia, Mauritius, Montserrat, Netherlands, New Zealand, Nigeria, Pakistan, Peru, Rhodesia, St. Helena, St. Kitts, St. Lucia, St. Vincent, Saudi Arabia, Switzerland, Tanzania, Tonga, Trinidad, Uganda, the U.K., the U.S.A., Venezuela and Zambia. Successful developments in the year are summarised below:

1. *Lindorus lophanthae* introduced from Mauritius in June to control the sugarcane scale, *Aulacaspis tegalensis*, shows every sign of permanent establishment, having been recovered within weeks of release and increasing in numbers rapidly at its release sites at Arusha Chini, Tanzania and also at Kawanda, Uganda.

2. *Physcus* sp. near *seminotus* sent to Mauritius in 1969 has been recovered there over two seasons.

3. *Teleonemia scrupulosa* at Serere, *Pediobius furvus* in Malagasy and *Opius phaseoli* (= *melanagromyzae*) and *O. importatus* in Hawaii continue to suppress their hosts. *O. phaseoli* has been reported to have become established in Brunei following its introduction there by the Sabah Sub-station.

4. *Tyria jacobaeae* introduced from Europe into western and eastern Canada against ragwort, *Senecio jacobaea*, continues to thrive. In Nova Scotia the moth has reduced the weed to one per cent of its former density.

5. *Celerio euphorbiae* introduced from Europe to control *Euphorbia* sp. in Canada continues to increase at the release sites in Canada and shows promise as a control agent of *Euphorbia*.

6. *Rhinocyllus conicus* introduced from Europe into Canada and the U.S.A. against musk thistle, *Carduus nutans*, continues to build up its populations in Canada and Virginia.

7. *Ceutorhynchus litura* introduced from Europe into Canada increased in numbers at a release site in Ontario where it may have been responsible for a local decline of creeping thistle, *Cirsium arvense*.

8. Population build-up and rapid dispersal of *Olesicampe benefactor*, an introduced parasite of the larch sawfly, *Pristiphora erichsonii*, continued in many localities of central Canada. In the early release plots parasitism has been consistently over 90% during the last five years. The parasite has now also been successfully established in the Maritime Province of Canada.

9. Successful establishment of parasites of *Phthorimaea operculella* from the Indian Station has been reported in Australia, Mauritius and Zambia. In Australia, from samples taken in 1969-70 in New South Wales mainly in the Hunter Valley, the Coastal Highlands and the Southern Table lands, *Apanteles subandinus*, *Campoplex haywardi*, *Orgilus lepidus* and *Copidosoma koehleri* have become more widespread and important mortality factors in the population dynamics of PTM. There was a striking increase in parasitism by *O. lepidus* which was recovered from more than 20 potato-growing districts in Victoria, New South Wales and Southern Queensland. In Mauritius *Copidosoma* was recovered in large numbers from field-collected infested tubers. In Zambia, apart from *Copidosoma uruguayensis* (established in 1969), *Agathis unicolor*, *Apanteles scutellaris*, *Temelucha* sp. and *Diadegma surendrai* (established in 1970) recoveries of *A. subandinus* and *D. raoi* have been made.

10. *Apanteles plutellae*, a parasite of *Plutella xylostella*, shipped by the Indian Station to the West Indian Station and thence introduced into Antigua and Montserrat (West Indies), has been recovered from release sites and from cabbage plots over 50 yards away. Recoveries have also been made from three release sites in Zambia, a mile away from one of these. In Barbados further recoveries have been made from a large number of release sites, even in areas where heavy insecticide applications are made. It would seem that it is definitely established in Barbados.

11. Recoveries of the nuclear polyhedrosis virus of *P. xylostella* supplied by the Indian Station have been made from a trial field in Zambia.

12. *Orthogalumna terebrantis* supplied by the Indian Station to Zambia for trial against *Eichhornia crassipes* has become established at one of the release sites on the Kafue River.

13. In New Guinea, *Hyperaspis maindroni* var. *brumoides*, a predator of *Maconellicoccus hirsutus*, was found to be established. This Coccinellid was supplied by the Indian Station during 1968 for direct field liberation.

14. *Neodusmetia sangwani*, a parasite of the Rhodes grass scale *Antonina graminis*, is reported to be giving excellent control of the scale in 10 of the 12 areas surveyed in Northern Brazil. The parasite was imported from the U.S.A. where it was introduced earlier from India through the Indian Station.

15. It is learnt from a recent publication that the Tachinid *Sturmiopsis inferens* sent from the Indian Station to the International Rice Research Institute, Manila, for trial against various species of lepidopterous rice stem-borers, has become permanently established in the Philippines.

16. The predacious mite *Phytoseiulus persimilis* has been reported to breed very successfully on Russet mite (*Vasates*) *lycopersici* on tomatoes under glasshouse condition in Zambia.

17. *Itoplectis narangae* (origin Japan, stock from India), released in March-June 1971 at Rawalpindi against *Chilo partellus*, was recovered soon after release. However, it is still too early to say whether it is permanently established or not.

18. The Encyrtid wasp *Coccidoxenus mexicanus* reared from *Ceroplastes floridensis* sent to Hawaii from the W.I. Station, Trinidad, in June 1967 to control the barnacle scale *C. cirripediformis*, was first recovered in October 1970. In his April 1971 Routine Report, Dr. C.J. Davis reports that between 75 and 95 per cent parasitism is now occurring and suggests promising biocontrol of this scale pest by *C. mexicanus*.

19. *Uroplata girardi* released in Trinidad in 1968-69 was recovered in December, i.e. two years after the final release.

20. *Cryptolaemus montrouzieri* obtained from the Indian Station, mass-reared in Trinidad and sent to St. Kitts for release against *Nipaecoccus nipae* was reported to be reducing the level of infestation of this mealybug.

21. The grasshopper *Paulinia acuminata* sent from the W.I. Station to Zambia and Rhodesia and released on the Kariba Lake for the control of *Salvinia auriculata* has been recovered in both areas, having successfully survived at least one winter season.

22. *Trichogrammatoidea nana* obtained from the Indian Station and released in Trinidad for the control of *Hypsipyla grandella* has been recovered from one of the release sites in Trinidad.

23. *Cactoblastis cactorum* obtained from Antigua and St. Kitts was released on Grand Cayman, Cayman Islands, in 1970. Several months later it was reported to be established.

24. Mr. F.A. Squire, Entomologist, Asesores Britanicos en Agricultura Tropical, Cochabamba, Bolivia, reported that several of the parasites, shipments of which were sent directly from or organized by the W.I. Station for the control of fruit-flies *Anastrepha* spp. and *Ceratitis capitata*, had been recovered in the field. *Pachycrepoideus vindemiae* had been recovered several times, and specimens tentatively determined as *Opius concolor* (introduced from Italy in 1968) and *O. longicaudatus* (introduced from Costa Rica in 1969-70) have been reared during the year. *Syntomosphyrum indicum* was also recovered from one of the release sites in 1970.

South and East Asian Regional Section

The Governing Board of this section consists of members of the Executive Committee and Councillors from each country of the region. The present office-bearers are:

Executive Committee

President	Keizo Yasumatsu
Vice-Presidents	M.A. Ghani, V.P. Rao
Secretary-Treasurer	Keizo Aizawa

Council

Keizo Aizawa (Japan)
Clare R. Baltazar (Philippines)
Yau-i Chu (Taiwan)
Henry E. Fernando (Ceylon)
Bernardo P. Gabriel (Philippines)
M.A. Ghani (Pakistan)
Chang-Whan Kim (Korea)
L.H.Y. Lee (Hong Kong)
Soon Guan Lim (Malaysia)
V.P. Rao (India)
S. Sastrodihardjo (Indonesia)
Keizo Yasumatsu (Japan)
Ahmad Yunus (Malaysia)
Anuwat Wattanapongsiri (Thailand)
Tanongchit Wongsiri (Thailand)

The total confirmed membership of this section is 88. Japan has contributed the largest number of 61. The Statutes of this section have been framed and circulated to the members for comments.

IOBC General Assembly

A General Assembly of IOBC members will be held in Canberra during the International Congress of Entomology.

General

We would be grateful if pertinent material for the next newsletter be sent to the C.I.B.C. Indian Station, P.O. Box 603, Bangalore-6, India.

A list of IOBC members is being issued separately. We would be grateful for any information as to the names and addresses of any members who have inadvertently been missed out of the present list.
