Eva Crane Trust

ECTD_057

TITLE: XXI International Apicultural Congress, Maryland, USA

SOURCE: *Bee World* 49 (1) 19 – 30

DATE: 1968

XXI INTERNATIONAL APICULTURAL CONGRESS
University of Maryland, U.S.A.
11th to 17th August 1967

by EVA CRANE

Bee Research Association, Chalfont St. Peter, Gerrards Cross, Bucks., England

Introduction

The possibility of holding a Congress in North America had been discussed for well over a decade. One factor discouraging such a venture was a widely expressed conviction that "only half-a-dozen from Europe would go". In the event, this fear proved quite unfounded. The Congress Directory lists names and addresses of participants from 43 countries, 22 of which are in Europe.

Attendance at the last two Congresses

	U.S.A. 1967	Rumania 1965
No. countries represented	43	49
Total no. members in official list	995	1481
Percentage from western Europe	39%	42%
Percentage from eastern Europe	3%	52%
Percentage from North America	52%	6%
Percentage from other continents	6%	

The figures above show that it is the beekeepers in western Europe who can and do attend the Congresses faithfully, whichever side of the Atlantic they are on. Relatively few in other countries are as yet able and willing to do so—only 28 went from the U.S. to Rumania in 1965, and only three from Rumania to the U.S. in 1967. This follows a long-established pattern, for it was in western Europe that these Congresses evolved [*Bee World* 1967, page 81]. This migration of beekeepers from western Europe to the XXI Congress on the eastern seaboard of North America is not without significance, for the first honeybees to reach the American continent were taken from western European ports only about 300 years ago. These honeybees flourished abundantly, and America has more than repaid her debt to their countries of origin by her great contributions to modern beekeeping. The opportunity afforded by this Congress for European beekeepers to see recent developments in the United States and Canada was most valuable, and indeed long overdue.

Formal opening and other Sessions

Opening ceremonies

These took place on Monday 13th August, under the auspices of Apimondia, the International Federation of Beekeepers' Associations. Mr. S. E. McGregor, Chief of the Apiculture Research Branch of the United States Department of Agriculture, introduced the President of Apimondia, Professor V. Harnaj; Officers of Apimondia, Honorary Members, Guests and Delegates were then introduced by Mr. J. I. Hambleton, Chairman of the Organizing Committee and President of the Board of Directors.

The assembly paid homage to the late M. Paul Horguelin, a Vice President of Apimondia and President of the *Union nationale de l'apiculture francaise* (who was to have led the French delegation), and to Dr. J. N. Tennent, a member of the Executive of Apimondia and a leader in the Scottish Beekeepers' Association. We were all glad that M. Horguelin's daughter Nicole and Mrs. F. A. Tennent were present to occupy the vacant seats.

The Congress was welcomed by Mr. Wilson H. Elkins, the President of the University of Maryland—where beekeeping was first taught as a subject in Natural Sciences in 1880. Professor Harnaj then gave his Presidential Address; Dr. R. F. Knipling, Director of the Entomology Research Division, U.S.D.A., read a paper on "The role of the honeybee in agriculture in the United States"; Dr. E. J. LeRoux, Research Co-ordinator for Entomology of the Canada Department of Agriculture spoke on "Beekeeping research in Canada", and Dr. Eva Crane on "The Bee Research Association". The official ceremonies were concluded with a speech by L. R. J. ridder van Rappard.

Other Sessions

Five General Sessions were held under the auspices of the Standing Commissions of Apimondia:

Bee Pathology (papers 80–89) 14th August
Bee Biology (papers 90–115) 15th August
Bee Technology and Equipment (papers 116–134) 16th August
Bee Economy (papers 135–146) 16th August
Melliferous Flora and Pollination (papers 147–169) 17th August.

Four Scientific Sessions took place before the Congress proper, under the sponsorship of the American Committee of the Bee Research Association:

Biology (papers 1–25) 11th August
Pollination (papers 26–39) 11th August
Pathology (papers 40–64) 12th August
Behaviour, and other selected topics (papers 65–79a) 12th August.

Happily the normal practice of presenting papers was resumed, each being read by its author instead of being "synthesized" by an intermediary as in 1965. Moreover, since papers by absent authors were passed over, there was time enough to deal with those whose authors were at the Congress. The papers themselves are covered in the next section of this report; many other meetings were held, impromptu continuations of discussions started at the formal Sessions, and Symposia on the following prearranged subjects: Honey, Genetics, Pollination, Pathology, Apitherapy. We hope to report separately on some of these Symposia in later issues of *Bee World.*

As at earlier Congresses, a number of organizations took advantage of the attendance of their own members at the Congress to arrange meetings—for instance the Eastern Apicultural Society, the Professional Apiculture Society, and Editors of Beekeeping Journals. To the Bee Research Association, especially, the Congress was important in that it brought together members from many countries, and meetings of B.R.A. Council, Regional Representatives and Members were held. The meeting for Regional Representatives (scheduled for 7.30 a.m.!) was the first since appointments had been made in the States of the U.S. and the Provinces of Canada, and it will long be remembered for its enthusiasm and wealth of constructive ideas.

Papers read

The 169 papers listed in the programme are set out below. No. 1–79a were part of the Scientific Sessions and No. 80–169 part of the General Sessions. As in earlier Congress Reports in *Bee World*, the papers are grouped under broad subjects with U.D.C. numbers appended. The paper number follows the author's name, and the *Apicultural Abstracts* reference follows the title. Both here and in *Apicultural Abstracts*, the few minor errors in authors' names have been corrected.

In view of the value of many of the reports, we have reverted to our earlier treatment of Congress papers, and all that have summaries in the programme, or appear in the book giving the full text of papers from the U.S.S.R., are included in *Apicultural Abstracts* No. 4 1967, either abstracted or listed as seems suitable. Papers that are in the Congress programme with no summary appear in the *Bee World* list only; they will receive attention for *Apicultural Abstracts* when their text is published.

Beekeeping Organization 638.1

GUILFOYLE, J. L. (135) Some aspects of world bee economy as I see it. *A.A.* 631/67
BATTALOV, F. S. (144) Beekeeping in the Soviet Union. *A.A.* 637/67
KALMAN, C. (146) Beekeeping in Israel. *A.A.* 638L/67
NTENGA, G. (79) Summary of beekeeping research in Tanzania.
TODD, F. E. (136) Building an industry with bee labor [in the U.S.A.]. *A.A.* 644L/67
ESPINA, D. (137) Beekeeping credit in some countries of Latin America. *A.A.* 641/67
ZOZAYA, A. (138) The development of apiculture in Mexico. *A.A.* 640L/67
KATZENELSON, M. (141) Beekeeping in Argentina.

Honeybees 638.121

FREE, J. B. (108) Recent discoveries about honeybee behaviour that have possible applications to beekeeping. *A.A.* 651/67
DIETZ, A. & HAYDAK, M. H. (7) Caste determination in honey bees : the significance of moisture in larval food. *A.A.* 655/67
MORIMOTO, H. (98) A method of measuring physical characteristics in the honeybees. *A.A.* 654/67
MICHAEL, A. S. (79a) Radar observations of honeybees in free flight. *A.A.* 656L/67
ESCH, H. & SIDIF, J. M. (66) Sound perception in bees. *A.A.* 657L/67
GILLIAM, M. & SHIMANUKI, H. (4) Coagulation of hemolymph of the larval honey bee. *A.A.* 658/67

Queens 638.121.1

REMBOLD, H. (1) Biochemical aspects of queen bee determination. *A.A.* 661/67
BELVEFER, B. de & GAUTRELET, M. (13) Cytological researches of mutation of larvae into queen bees.
WEAVER, N. (2) Studies on the lipids of the honeybee. *A.A.* 660/67
VELTHUIS, H. H. W. (11) On abdominal pheromones in the queen honeybee. *A.A.* 659/67
KULINCEVIC, J. (69) Mating flight of a queen after commencement of egg laying. *A.A.* 664/67
GARY, N. E. (109) The behavior of mated queen bees when "colonized" in multiple-queen groups without worker bees. *A.A.* 665L/67
FOTI, N., CRISHAN, I. & DOBRE, V. (104) Research on the composition of food for queens during the winter season.

Workers 638.121.2

ROBINSON, F. A. & NATION, J. L. (8) Studies on the nutritional requirements of the honeybee with special reference to certain vitamins and minerals.
BARAC, I. (25) Influence of the pancreatic extract on bees in winter (in captivity).
BARAC, I., ROSENTHAL, C. & TANASESCU, R. (17) Influence of the pancreatic extract and pollen on the pharyngeal glands and fat body of wintering bees.
ROSENTHAL, C. (16) Evolution of the fat body and pharyngeal glands of bees during the winter season.
TSAO, W. & SHUEL, R. W. (3) Amino acid composition and breakdown of royal jelly protein fractions in the midgut of the larval honeybee. *A.A.* 667/67
LENSKY, Y. (5) Separation and characterization of larval bee workers' blood proteins. *A.A.* 668/67
HAYDAK, M. H. & DIETZ, A. (6) Cholesterol, pantothenic acid, pyridoxine and thiamine requirements of honeybees for brood rearing. *A.A.* 671/67
ZHEREBKIN, M. V. (20) Secretion of digestive enzymes in the midgut of the worker bee. *A.A.* 669/67
GROBOV, O. F. (57) On the prospect of using the age coefficient of the hemolymph of bees in the study of their pathology. *A.A.* 666/67

Field Bees 638.121.24

KEFUSS, J. A. & NYE, W. P. (71) The influence of photoperiod on honeybee flight activity. *A.A.* 672/67
WENNER, A. M. & WELLS, P. H. (111) An experimental analysis of food exploitation by experienced and naive honeybees. *A.A.* 676/67
BOHART, G. E., MORADESHAGHI, M. J. & RUST, R. W. (32) Competition between honey bees and wild bees on alfalfa. *A.A.* 674/67
TARANOV, G. F. & SEDIN, I. F. (114) The behavior of foraging bees during an extended flow. *A.A.* 678/67
BROWN, C. A. (28) Seasonal distribution of bee-collected pollen from two stations in Mississippi and one in Alabama. *A.A.* 679/67
CALE, G. H., Jr. (92) Pollen-gathering relationship to honey collection and egg laying in honeybees.

Drones 638.121.3

WOYKE, J. & SKOWRONEK, W. (9) Spermatogenesis in diploid drones. *A.A.* 682/67
WOYKE, J. (10) Diploid drone substance—cannibalism substance. *A.A.* 681/67

Honeybee Races 638.123

LEDENT, G. F. (99) Acclimatised and indigenous bees. *A.A.* 685/67
MEL'NICHENKO, A. N., PETROV, I. V. & RAIMKULOV, K. R. (19) On the originality and evolution of honeybee populations in the alpine regions of Kirghizia. *A.A.* 691/67
KOSTAREV, G. K. & VLASOV, V. N. (107) Some data from a comparative study of different bee races in Bashkiria. *A.A.* 686/67
GASANOV, SH. O. (103) On the flora migration and flora specialization of honeybees of different races. *A.A.* 684/67
BILASH, G. D. (127) Organization and methods of work according to the distribution of bee races in the U.S.S.R. *A.A.* 689/67
URSU, N. A. & SUBBOTIN, YU. A. (115) Comparative evaluation of various races of bees and their hybrids in Moldavia. *A.A.* 690/67
BÄHRMANN, R. (21) On the structure of wing venation in the "domestic races" of *Apis m. carnica, caucasica* and *mellifera.*
MADEBEIKIN, I. N. (113) On the foraging activity of some races of bees and their hybrids under different conditions of nectar flow. *A.A.* 683/67

LEKISHVILI, A. & KHIDESHELI, A. L. (18) Characteristics of the main populations of the gray Georgian bees. *A.A.* 694/67
MATHIS, M. (112) Biological behaviour of Tunisian bees.
WAFA, A. K., KHALIL, A. R. & KASDY, A. M. (12) Further biometrical studies on the Egyptian honey bee. *A.A.* 695/67
KERR, W. E., GONÇALVES, L., STORT, C. & BUENO, D. (68) Biological and genetical information on *Apis mellifera adansonii. A.A.* 696/67
NTENGA, G. (94) The honeybee of Tanzania, *Apis mellifera adansonii. A.A.* 697L/67

The Colony, including Social Behaviour 638.124

KALMAN, C. (100) Egg laying of the honeybee in general apiculture practice in Israel. *A.A.* 698/67
BANBY, M. A. EL (72) Heritability estimates and genetic correlation of brood-rearing and honey production in the honeybee. *A.A.* 703/67
WENNER, A. M. (65) In search of vigor in the honey bee dance. *A.A.* 701L/67
LEVCHENKO, I. A. & SHALIMOV, I. I. (74) Conditions of the perception of information on the spatial position of food in the retinue of the scout bee. *A.A.* 700/76
LOPATINA, N. G., CHESNOKOVA, E. G. & NIKITINA, I. A. (75) Individual experience of honeybees in forming bits of information on the distance of the food source from the hive. *A.A.* 699/67
MITEV, B. (97) Importance of stores for the development and productivity of bee colonies. *A.A.* 704/67

Bee Plants: General 638.13

BORTHWICK, H. A. (152) Plant photoperiodism. *A.A.* 706L/67
BURMISTROV, A. N. (154) The sowing of honey plants in orchards for flows and green manuring. *A.A.* 713/67
KOVALEV, A. M. (145) Degree of concentration of the honey reserve of a locality and the productivity of the work of bees. *A.A.* 710/67
GEORGESCU, D. & PUSHCASHIU, G. (167) Observations on the value of willow *Salix* sp. as a nectar source.
MURESAN, E. & SABAU, A. (165) Research on the melliferous value of mountain plantations.
——— (163) Rational turning to account of the vast acacia plantations in the sandy area of south-western Romania.
CIRNU, I. & OTHERS (77) Chemical composition of pollen according to the species and way of conservation.
VORWOHL, G. (27) Palynology in apicultural research with special emphasis on the pollen of American bee plants and honeys. *A.A.* 616/67
ARIZAN & OTHERS (37) Conservation of maize pollen by means of ionizing radiation.
CIRNU, I. (155) The main producers of honeydew in Romania and prospects of turning it to account.

Bee Plants: Nectar Secretion 638.132.1

IFTENI, L. (169) The sugar content of nectar in some species of cultivated plants.
SHUEL, R. W. (30) Nectar secretion in excised flowers: differential transport of sucrose and other solutes. *A.A.* 708/67
GIRNIK, D. V. (38) On the initial products utilized by linden and lespedeza flowers in the process of nectar formation. *A.A.* 709/67
CIRNU, I. (159) Dynamics of flowering and nectar secretion in Cucurbitaceae.
——— (157) Dynamics of the nectar secretion in Cucurbitaceae under the conditions in the Romanian plain.
KAZIEV, T. I. (160) Some agrotechnical measures expediting increased nectar productivity of cotton. *A.A.* 711/67

Beekeeping Practice 638.14

MUNNICH, K. (134) Good wintering.
MEL'NICHUK, I. A. (131) The wintering of bees on artificially prepared sugar food. *A.A.* 717/67
SELLIANAKIS, G. (121) Factors influencing hive yield. *A.A.* 718L/67
JAY, S. C. (110) Drifting and the commercial beekeeper. *A.A.* 745L/67
HUSTON, W. F. (151) Migratory beekeeping and commercial pollination in the state of California. *A.A.* 650/67
NICOLAIDE, N. & CIRNU, I. (130) Promotion of agriculture and apiculture in Romania by practising migratory beekeeping in broad fields in sunflower, and the efforts of the Romanian Beekeepers' Association to achieve this end.
YORK, H. (125) Package bees.
PANKIW, P. & CORNER, J. (122) Package bees from colonies wintered in southern British Columbia, Canada. *A.A.* 744/67
MITEV, B. (123) Comparative methods for production of royal jelly. *A.A.* 739/67
WAFA, A. K. & HANNA, M. A. (22) Some factors affecting the production of royal jelly. *A.A.* 738/67
DOULL, K. M. (95) Recent research on pollen supplements. *A.A.* 727L/67

Beekeeping Equipment 638.141.3

OWENS, C. D. & DETROY, B. F. (120) New engineering developments in beekeeping. *A.A.* 716/67
HARNAJ, V., DUMITROSCU, I., SAVULESCU, S. & JIANU, M. (126) Characteristic schemes of the equipment needed for an industrial apiary.
HACCOUR, P. (143) Beekeeping with the "Maroka" hive. *A.A.* 721/67
JOHANSEN, C. A. (42) Control of waxmoth with comb foundation impregnated with *Bacillus thuringiensis*. *A.A.* 723/67

Bee Breeding 638.145.3

RUTTNER, F. (90) Hybrid breeding. *A.A.* 729/67
ROBERTS, W. C. (91) The development of hybrid bee breeding in the U.S.A. *A.A.* 731L/67
MACKENSEN, O. (148) Breeding honeybees for pollination of specific crops. *A.A.* 733L/67
NYE, W. P. & MACKENSEN, O. (31) Preliminary report on the fifth generation selection and breeding honey bees for collecting alfalfa pollen. *A.A.* 732/67
KOPTEV, V. S. (105) Economic efficiency of crossing far-eastern and local bees in western Siberia. *A.A.* 734/67
HARNAJ, V. & HARNAJ, M. (102) Contributions to large-scale bee breeding.
VELICHKOV, V. (96) Comparative studies on Italian and indigenous honeybees and their crossbreeds in Bulgaria.

Queen Rearing 638.145.5

AVETISYAN, G. A., RAKHMATOV, K. K. & ZIEDOV, YU. M. (101) Influence of rearing periods on the external and internal characteristics of queen bees. *A.A.* 736/67
MIRZA, E. (106) Development of queens in the prenymphal stage in incubators as compared to nurse (finishing) colonies.
WOYKE, J. (93) Rearing conditions and the number of sperm reaching the queen's spermatheca. *A.A.* 737/67
BOGNOCZKY, J. (124) Queen rearing in plastic cells. *A.A.* 735/67
ATWAL, A. S. & SHARMA, G. P. (70) The introduction of *Apis mellifera* queens into *Apis indica* colonies and the associated behavior of the two species. *A.A.* 740/67
HARP, E. R. (73) Multiple queen storage. *A.A.* 743L/67
AVETISYAN, G. A. & VASILIADI, G. K. (129) Results of experiments on wintering of queens outside the bee colony. *A.A.* 741/67

Bee Diseases: General 638.15

HEIMPEL, A. M. & SHIMANUKI, H. (40) Can we improve our knowledge of bee diseases? *A.A.* 746/67
STANLEY, G. L. (83) Procedures for disease control in the United States and Canada. *A.A.* 749L/67
WILLE, H. (55) Mixed infections in the honeybee *Apis mellifera* L. according to findings with Swiss material during 1965–1966.

Adult Bee Diseases 638.153

ALEKSEENKO, F. M. & KOLOMIETS, A. YU. (56) A study of the virus paralysis of bees in the Ukraine. *A.A.* 752/67
GIAUFFRET, A. (62) The study of histological injuries of the black disease.
JACHIMOWICZ, T. (60) A contribution to the problem of septicemia of the honeybee.
POLTEV, V. I., DAVYDOV, M. S. & SAL'CHENKO, V. L. (54) Varroa disease and its control. *A.A.* 748/67
STEJSKAL, M. (51) Gregarines parasitizing honey bees—a contribution to their biology. *A.A.* 771/67

Acarine Disease 638.153.2

ECKERT, J. E. (46) A study of *Acarapis* mites of honey bees. *A.A.* 619/67
GIORDANI, G. (44) On the laboratory rearing of *Acarapis woodi* Rennie. *A.A.* 618/67
ATWAL, A. S. (45) Studies on the acarine disease problems in *Apis indica*. *A.A.* 754/67
VECCHI, M. A. & GIORDANI, G. (43) Research on chemotherapy of *Acarapis woodi* Rennie. *A.A.* 753/67

Nosema Disease 638.153.3

HITCHCOCK, J. D. (50) Nosema infections in honey bees at different humidities. *A.A.* 756/67
MOELLER, F. E. (49) A study of the incidence of nosema infection in over-wintered colonies in Wisconsin. *A.A.* 757/67
PRZELECKA, A. & HARTWIG, A. (47) Cytochemical and autoradiographic investigations on nucleic acids in the intestine of *Apis mellifica* infected with *Nosema apis* Zander and treated with fumagillin DCH (Chinoin, Budapest, Hungary). *A.A.* 758/67
ZHDANOV, S. V. (52) Implantation of the *Nosema apis* parasite into cells of the host's body. *A.A.* 755/67
POPA, A. & OTHERS (48) Contributions to the study of ultra structure of the *Nosema apis* spores.

Brood Diseases 638.154

NAZAROV, S. S. & GODYATSKII, S. YA. (88) The disinfection of combs with methyl bromide during artificial and natural infection by the organisms causing the foulbrood diseases. *A.A.* 761/67
ROTHENBUHLER, W. (80) American foulbrood and bee biology.
SHIMANUKI, H. & LEHNERT, T. (85) The use of ethylene oxide in the bee industry. *A.A.* 762/67
GOCHNAUER, T. A. & L'ARRIVEE, J. C. M. (64) Experimental infections with "marker" strains of *Bacillus larvae*.
WILSON, W. T. (41) *Bacillus larvae* in the alimentary canal and hemocoel of the adult honeybee *Apis mellifera*.
SMIRNOVA, N. I. & KHRIPUNOV, E. K. (89) Changeability of the causative agent and rational methods of treatment of American foulbrood.
GOCHNAUER, T. A., ROBB, J. A. & HAMILTON, H. (84) Gamma radiation of American foulbrood diseased combs. *A.A.* 768/67

Bee Poisoning 638.158.2

ATKINS, E. L., Jr. & ANDERSON, L. D. (81) Toxicity of pesticides to honey bees in the laboratory. *A.A.* 775/67

ANDERSON, L. D. & ATKINS, E. L., Jr. (82) Toxicity of pesticides to honey bees in the field. *A.A.* 777/67

STEPANISHVILI, V. G. (59) The anatomico-histological and morphological changes of the midgut of bees during poisoning with toxic chemicals. *A.A.* 778/67

PICHA, S. (58) Detection of some toxic pesticide residues in dead bees.

POURTALLIER, J. (61) The techniques of detection of toxics in bees and honeys.

SERBAN, M. & ALEXANDRESCU, A. (86) Toxicity of certain pesticides for bees.

Honey: Composition and Properties 638.16

MELOY, R. W. (116) The product honey. *A.A.* 783L/67

TIMIS, S. (78) Contribution to the analysis of pollen in honey.

KNAPP, F. W. (34) Methyl anthranilate content of citrus and non-citrus honeys. *A.A.* 788/67

IALOMITZEANU, M., DAGHIE, V. & MIHAESCU, N. F. (87) Contributions to the study of the bacteriostatic and bactericidal action of honey.

RACOVEANU, N. & OTHERS (76, 161) Study of the radioactivity of acacia honey.

WHITE, J. W., Jr. (117) Measuring honey quality—a rational approach. *A.A.* 791/67

DUISBERG, H. (119) German approach to the quality of honey.

Honey: Processing 638.163

STONE, R. J. (118) Honey handling on a large scale. *A.A.* 793L/67

HARNAJ, V., DUMITRASCU, I., GHILEZAN, R. & RUSU, I. (128) Operations lines for honey conditioning in industrial centres.

ALEXANDRU, V. & NICOLESCU, G. (132) Vibratory hand uncapping knife.

KODOYNE, M. I. [CODOUNIS, M.] (142) The problem of honey crystallization and its refinement in fruit juice and preserves co-operatives in Greece. *A.A.* 794L/67

Honey: Promotion 638.16 : 659.1

REPETTO, A. O. (139) Necessary organization for a well directed world propaganda on honey. *A.A.* 780L/67

ALDWORTH, J. M. & HAEGER, P. (140) The promotion of honey—a nation-wide approach.

Beeswax 638.171

TIMIS, S. & CIOCA, V. (133) Observations relating to the extraction, amelioration and conditioning of beeswax.

Other Bee Products 638.178

DEREVICI, A. & DIMA, V. (24) Comparative research on the hemolytic action of natural and deproteinized bee venom. *A.A.* 804/67

——— (53) Action of bee venom on the development of epithelial cell cultures of monkey kidneys. *A.A.* 805/67

DEREVICI, A., POPESCO, A. & NUCA, O. (14) Method for the identification of bee venom by a study of its antibiotic, proteolytic, hemolytic and anti-coagulant properties. *A.A.* 802/67

DEREVICI, A., EUGENIA, S. & DIMA, V. (63) The activity of an extract of propolis on an Ehrlich ascites carcinoma. *A.A.* 800/67

HARNAJ, M., RUSSU, I. & CIOCA, V. (15) Contributions to the nutritive value of bee larvae.

MATUSZWESKI, J. (23) On the question of the biomechanism of royal jelly.

Honeybees as Pollinators: Seed Crops 638.19 : 633

PRITSCH, G. (153) Progress in the organization of compatible placement of honeybees for pollination of commercial agricultural crops.

ÅKERBERG, E. (29, 147) Pollination problems in some melliferous fodder legumes. *A.A.* 811L/67

MEL'NICHENKO, A. N. & NIKIFOROVA, N. V. (164) Features of the vitality and pollinating work of bees in hothouse conditions of the transpolar tundra. *A.A.* 823/67

RYMASHEVSKII, V. K. (166) The role of the Apidae in the pollination of red clover and alfalfa. *A.A.* 812/67

PANKIW, P. (33) Floral mutants of alfalfa—honey bee preference and seed production. *A.A.* 814/67

PRITSCH, G. (36) Investigation of the pollination of honeybees *Apis mellifera* in the floral pollination of alfalfa (*Medicago varia*).

SMARAGDOVA, N. P. (168) Red clover and honeybees. *A.A.* 815/67

KOZIN, R. B. (158) Influence of bee *Apis mellifera* pollination of lupine *Lupinus* L. on seed yield and quality. *A.A.* 816/67

Honeybees as Pollinators: Fruit 638.19 : 634

REED, C. B. (150) Commercial fruit pollination. *A.A.* 817/67

PETKOV, V. & PANOV, V. (149) Study on the efficiency of apple pollination by bees. *A.A.* 820/67

KURENNOI, N. M. (39, 162) Apple yield as a function of the multiplicity of bee visits to the flowers. *A.A.* 819/67

ZAVRASHVILI, R. M. (156) Influence of bees on the yield of citrus trees on the commercial plantations of Gerogia. *A.A.* 822/67

MARTIN, E. C. (35) Pollination of the highbush blueberry *Vaccinium corymbosum* L. in Michigan.

Other Bees 595.799

ZUCCHI, R. & OTHERS (67) Recent advances in stingless bees behavior. *A.A.* 627/67

STEPHEN, W. P. (26) Wild bee management. *A.A.* 825/67

Apimondia

Meetings of Apimondia Committees and Commissions were held before and during the Congress. The General Assembly took place on the afternoon of the 17th, and was the final formal occasion of the Congress. The report of the Secretary General, Dr. S. Cannamela, was presented; it is published in full in the Apimondia *Bulletin* (11/12) : 15–25 (1967) and in *Apiacta* (4) : 22–23 (1967). The Report had been discussed and approved at a previous meeting of the Executive Council, which also approved the Financial Report and Balance Sheet (pages 29–31 of the *Bulletin*). A new development is the organization within the Standing Commission on Bee Economy of a group to deal with special organizational problems and the training of beekeeping specialists.

Only one invitation had been received for the XXII Congress, from Germany (D.B.R.), and this was accepted. This Congress will be held in Munich in the summer of 1969.

Exhibitions and other events

The Congress Sessions were held in the Student Activities Building of the University—a giant covered stadium of which we occupied only a small part (like a small swarm put into an over-large hive), for the stadium could seat 13 000 people. In the same building there was a small group of exhibits.

Some were staged by manufacturers of beekeeping equipment in the U.S. and Canada, such as Dadant, Root and Hodgson. Others were arranged by the U.S.D.A. Bee Culture Research Branch, and by beekeepers' organizations in North America; these gave visitors an insight into some of the differences between the attitudes and activities of beekeepers in the host country and their own. (This Congress is, for instance, the first to have a Honey Queen among the list of officers.) The B.R.A. information desk and bookstall were in this section.

In the University Library a number of rare books, pamphlets and pictures were on exhibition. Here also Mr. R. A. Grout had set up a display of his unusual collection of "bee buttons". Beekeepers are inveterate collectors of objects portraying bees and hives, but this collection must surely be unique in the world. It is described in *American Bee Journal* 1967, page 340. Beeswax candles made by Charles Going were also on show; they were exquisitely made and quite beautiful.

Out of doors, there were frequent demonstrations of different procedures in mechanized beekeeping, and various types of American beekeeping equipment were on view. Some Congress members brought interesting pieces of their own, such as Mr. P. Haccour's "Maroka" hive, designed to serve as an intermediate between primitive fixed-comb and modern movable-frame hives.

Entertainment and excursions

Films on bees and beekeeping were shown on several evenings. At 5.30 p.m. on the Monday, the chairs were cleared from the stadium, and after an official reception by Congress and Apimondia officials, a beef barbecue was served. Square dancing followed, with more and more novices joining in as the evening wore on. Many children were present too; they were provided with bubble-makers. Those who were visiting the United States for the first time, whether participants or onlookers, felt they were getting a glimpse of the "American way of life".

At the same hour on Wednesday we all participated in a "Chicken and Maryland Crab Barbeque" in the Dining Hall serving Denton, Eaton and Elkton, the three student Dormitories where many of the Congress members stayed; others were housed more luxuriously in the Adult Education Centre. Communal dining rooms in the U.S. are required to maintain very high standards of hygiene; the use of crockery that has been chipped or cracked is prohibited, and strict procedures are laid down for washing up. It is therefore more economical to use expendable equipment, paper plates and cups, and plastic cutlery. The latter was avidly collected by some Congress members, on the strength of a notice: "The plastic knives, forks and spoons may be considered as gifts of the University Food Service. You may take these with you after each meal". It is amusing to think of the hundreds of beekeepers' picnics that will be furnished with this cutlery in the coming summer, and thus bring back happy memories of the Congress.

Since the University of Maryland is only half-an-hour's journey from the centre of Washington, it is not surprising that the treasures in the museums and art galleries there drew members away from some of the Congress Sessions. Eleven tours had been arranged by a Washington travel agency, but a number of these had to be cancelled for lack of support; this may have been due to their cost, or perhaps even to the wealth of sight-seeing that could be done without professional aid.

stop and you will be taken to your Residence Hall or to where you wish to go on the campus. You will not be taken to jail. Any participant who receives a parking ticket while on the campus of the University kindly give the parking ticket to one of the ladies in attendance at the Information Booth".

Members of the National Honey Packers and Dealers' Association and the Canadian Beekeepers' Council provided honey served on all dining tables. The American Bee Breeders' Association gave each member a certificate entitling him to a free queen next spring. The Ohio Honey Belles (wives of members of the Beekeepers' Association) made nosegays of net and artificial flowers, with a stylized bee foraging on them, for their fellow "belles" from overseas.

The present Congress was not easy to organize. The last three Congresses had been held in historic capital cities of European countries. Moreover these were totalitarian countries, all wanting foreign currency and foreign visitors. Once official sanction had been given, government support could be obtained and unity of effort achieved. There was no such governmental impetus in the United States or Canada; in these large countries not much significance is attached to an International Congress relating to one of their minor industries. Unlike the last three Congresses, no national building was made available for the present one. Not only were two countries acting together as host; a multiplicity of the beekeepers' organizations was involved, which had to create a unified command before organization of the Congress could start. The designated Secretary, Professor George Abrams, died suddenly before the appointment could be made. (His successor in the Apiculture Department of the University of Maryland, Dr. Alfred Dietz, worked vigorously for the Congress in his place.)

The programmes of papers were organized from Canada, the Scientific Sessions by Dr. T. A. Gochnauer and the General Sessions by Prof. G. F. Townsend; both are to be congratulated on their success, at long last, in raising the standard of papers accepted, and presented. Translation—always a problem at international congresses—was not solved until the last moment, when the translating machinery of the U.S. Department of State was made available. It worked excellently when authors supplied copies of their manuscripts in advance, but—inevitably—not otherwise. Dr. H. Shimanuki, in addition to translating, served as Secretary to the Board of Directors.

Last, but certainly not least, we must pay tribute to Mr. James Hambleton, President of the Board and Chairman of the Organizing Committee. When the General Assembly of Apimondia had at last agreed upon the U.S. as the next host country, Mr. Hambleton's real work started; his genius for self-effacement prevented many from knowing how much time, energy and work the Congress had cost him. For many years it had been Mr. Hambleton's dream to persuade the International Beekeeping Congress to meet in America, and we congratulate him and Mrs. Hambleton on the fulfilment of this dream.

Bee Research Association

Nineteenth Annual Report

1. Introduction

President and Council

Professor O. Morgenthaler continued as President in 1967. Sir Vincent Wigglesworth, C.B.E., M.D., F.R.S., has accepted the invitation from Council to become President for 1968 and 1969. Until his recent retirement, Sir Vincent was Quick Professor of Biology in the University of Cambridge, and Director of the Agricultural Research Council Unit of Insect Physiology; his work on insect physiology will be well known to members.

The Council remained unchanged in 1967 except that Dr. C. G. Butler and Mr. K. M. Doull retired at the A.G.M. in May, and Dr. J. B. Free and Dr. F. G. Smith were elected in their place, thus preserving the links with the Bee Department at Rothamsted Experimental Station and with Australian bee research.

Membership

Rising costs forced us to increase some of our journal subscription rates in January 1967. We knew that this would be reflected in our membership figures, and that we could not expect to maintain the net annual increase of about 10% that had been achieved in recent years. We gained 177 new members, about the same number as in each of the last two years, but lost 11 through death and 179 by resignation, loss of contact or non-renewal, leaving a net total of 1126 at the end of the year.

Although some of the fees and subscription charges were increased at the beginning of 1967, the basic fee for membership of the Association was left unchanged at £1 10s. 0d or 4 dollars (U.S.) per annum. Proposals must inevitably be laid before the Association in due course to bring this into line with the other rates in operation. In the mean time it is vital to the well-being of the Association that new members are recruited in sufficient numbers each year, not only to make good such losses as will always occur, but to provide a satisfactory net increase in the membership. We know of no better ambassadors for the Association than the present members, and we urge them to bring to the notice of others the benefits that can be obtained by joining. If this can be done, the healthy increase we look for will be more than achieved. A blank application