# INSECTES SOCIAUX

BULLETIN DE L'UNION INTERNATIONALE
POUR L'ÉTUDE DES INSECTES SOCIAUX

## NOUVELLES DE L'UNION

Tome IV — 1957 — N° 1

# II

# NOUVELLES DE L'UNION

## LISTE ALPHABÉTIQUE DES MEMBRES DE L'UNION INTERNATIONALE POUR L'ÉTUDE DES INSECTES SOCIAUX

Le Secrétariat présente ci-dessous la liste alphabétique de tous les membres actuels de l'U. I. E. I. S.

Pour chaque membre, l'ordre suivi pour les divers renseignements donnés est le suivant :

NOM (Prénom). — Titre. — Adresse. — NATIONALITÉ. — ***Spécialités.***

*Abréviations de nationalités*

AN. Angola.
AR. Argentine.
BE. Belgique.
BR. Brésil.
CA. Canada.
DA. Danemark.
DE. Allemagne.
FR. France.
GB. Grande-Bretagne.
IN. Inde.
IS. Israël.
IT. Italie.
JA. Japon.
LU. Luxembourg.
NE. Hollande.
SA. Afrique du Sud.
SR. Sarre.
SW. Suède.
SZ. Suisse.
U. S. A. États-Unis d'Amérique.
U. S. S. R. Union soviétique.

*Abréviations de spécialités.*

***Ac.*** Acridoidea.
***Ap.*** Apoidea.
***I.*** Isoptera.
***F.*** Formicoidea.
***Hy.*** Hymenoptera, en général.
***My.*** Myrmecophiles.
***Te.*** Termitophiles.
***V.*** Vespoidea.
***I. S.*** Insectes sociaux, autres que les groupes précédents.
***P. S.*** Phénomènes sociaux en général.
***Ph. I. S.*** Physiologie des Insectes sociaux.

Il manque dans cette liste quelques indications de spécialités ; il peut manquer aussi quelques noms de membres de l'Union. Le Secrétaire prie tous ceux qui relèveront des erreurs de l'en excuser, et c'est avec reconnaissance qu'il recevra toutes les critiques ou les rectifications qui s'imposent.

G. Richard.

### A

Abbott (C.-E.), P. O. Box 169, *Henniker, N. H.*, U. S. A.

Altmann (G.), Dr., Oberass. Zoologisches Institut, Universität Saarbrücken. *Saarbrücken 3*, SR. ***Ap.***

Amaral (E.), Dr., Esc. sup. Agric. Luis de Queiroz, *Piracicaba* (Est. São Paulo), BR.

André (S.), 64. rue Madame, *Paris-VI^e^*, FR. ***Ac.***

ARAUJO (R. L.), Prof., Instituto Biologico. Caixa Postal 7119, *São Paulo*, BR. ***I*** et ***V.***
AUTRUM (H.), Prof., Dir. Zoologisches Institut der Universität. Röntgenring 10, Würzburg, DE. ***Ap.*** et ***Ph. I. S.***
AUTUORI (M.), Prof., Instituto Biologico. Caixa Postal 7119, *São Paulo*, BR. ***F.***
AYRE (G. L.), Entomology Laboratory, Box 179, *Bellville*, Ontario, U. S. A.

## B

BADONNEL (A.), Prof., 4, rue Ernest-Lavisse, *Paris-XII*e, FR. ***I. S.***
BATAN (M.), Dir., Institut Pyrénéen du Miel, *Ossun* (Hautes-Pyrénées), FR. ***Ap.***
BAUSENWEIN (F.), Assistant, Institut für Angewandte Zoologie, Röntgenring 10, *Würzburg*, DE, ***F.***
BAZIRE (H.), Attachée de Recherches au C. N. R. S., Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***F.***
BECKER (G.), Dozent, Materialprüfungsamt. Unter den Eichen 87, *Berlin Dahlem*, DE. ***I.***
BEIGANG (O.), Balberger Heide 66, *Sonsbeck* Ndrhn, DE, ***Ap.***
BERLAND (L.), sous-Directeur, Laboratoire d'Entomologie, 45 *bis*, rue de Buffon, *Paris-V*e, FR. ***F.*** et ***V.***
BERNARD (F.), Prof., Laboratoire de Zoologie, Faculté des Sciences. *Alger* (Algérie), FR. ***F.***
BEUTLER (R.), Prof., Zoologisches Institut der Universität München. Luisenstr. 14, *München 2*, DE. ***Ap.***
BIER (K.), Dr., Zoologisches Institut der Universität. Röntgenring 10, *Würzburg*, DE. ***F.***
BISCHOFF (H.), Prof., Zool. Museum der Humboldt Universität. Invalidenstr. 43, *Berlin N. 4*, DE. ***Hy.***
BISGAARD (C.), Kommunelaerer. St. Kongensgade 96[II], *Copenhagen K*, DA. ***F.***
BLACKITH (R. E.), Esq., Imperial College Field Station, Silwood Park, *Sunninghill*, Berks., G.-B.
BODENHEIMER (F. S.), Prof., Hebrew University. *Jerusalem*, IS. ***P. S.***
BOETIUS (J.), Assistent, Mag. Scient., Danmarks Akvarium. Charlottenlund Slotspark, *Charlottenlund*, DA. ***Ap.***
BOISTEL (J.-M.), Laboratoire de Physiologie, Faculté des Sciences, 1, rue Victor-Cousin, *Paris-V*e, FR. ***Ac.***
BONAVENTURA (G.), Istituto Patologia del libro. Via Milano 72, *Roma*, IT. ***I.***
BONNEMAISON (L.), Dr., Station Centrale de Zoologie agricole. Route de Saint-Cyr, *Versailles* (Seine-et-Oise), FR. ***I. S.***
BORCHERT (A.), Prof., Institut f. Vet. Med. Parasitologie. Reinhardstr. 4, *Berlin N. W. 7*, DE. ***Ap.***
BORGMEIER O. F. M. (T.), Prof. Estrada Rio Grande 2.116, *Jacarépagua*, BR. ***Te.***
BOSELLI (F.), Dott. osservatorio Fitopatologico, *Cagliari*, IT, ***F.***
BÖTTCHER (F. K.), Direktor der Bayer. Landesanstalt für Bienenzucht. Bohlenplatz 21, *Erlangen*, DE. ***Ap.***
VAN BOVEN (J. K. A.), St. Christoffelstraat 2, *Roermond*, NE. ***F.***
BRADLEY (J.-C.), Dr., Dpt. of Entomology, Cornell University, *Ithaca*, N. Y. U. S. A.
BRANDT (H.), Dr., Bayerische Landesanstalt f. Pflanzenbau und Pflanzenschutz. Königinstrasse 36, *München 23*, DE. ***F.***
BRANGHAM (A. N.), Esq., 15 Callcott Street, Kensington, *London*, W. 8., G.-B.
BRIAN (M. V.), Dr., Furzebrook Research Station. *Wareham*, Dorset, GB. ***F.*** (et Madame).
BRIEN (P.), Prof., Université de Bruxelles, Institut Zoologique Torley-Rousseau, 50, avenue Fr.-Roosevelt, *Bruxelles*, BE. ***P. S.***
BROWN (W.-L.), Dr., Museum of Comparative Zoology, Harvard University, *Cambridge 38*, Mass., U. S. A. ***F.***
BRÜNS (H.), Dr., Leiter der Vogelschutzwarte, Feldbrunnenstr. 58, Hamburg, 13, DE. ***F.***

BUCHLI (H.), Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***I.***

BUCHNER (R.), Dr., Zoologisches Institut der Universität. Luisenstr. 14, *München 2*, DE. ***Ap.***

BÜDEL (A.), Dr., Versuchsstelle f. Bienenphysik, München. Waldesruhe 20, *München Grosshadern*, DE. ***Ap.***

BUSNEL (G.), Directeur du Laboratoire de Physiologie acoustique I. N. R. A. *Jouy-en-Josas* (Seine-et-Oise). FR. ***Ac.***

BUTLER (C. G.), Dr., Rothamsted Experimental Station. *Harpenden Herts*, GB. ***Ap.***

## C

CABANES (J.), Dr., 91, avenue de La Bourdonnais, *Paris-VII*e, FR. ***Ap.***

CANDURA (G.), Dr. Osservatorio Fitopatologica per la Ven. *Trident. Bolzano*, IT. ***P. S.***

CARASSO (N.), Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***I.***

CARTHY (J. D.), Dr., Department of Zoology, Queen Mary College. Mile End Road, *London*, E. 1, G.-B. ***F.***

CASTLE (G. B.), Dr., Montana State University. *Missoula*, Montana, U. S. A. ***T.***

CHANDLER (L.), Dr., Entomology Depart., Purdue Univ. Agricultural Hall, *Lafayette*, Indiana, U. S. A.

CHAUVIN (R.), Directeur de la Station de Recherches apicoles. *Bures-sur-Yvette* (Seine-et-Oise), FR. ***A.*** et ***P. S.***

CHIAROMONTE (A.), Dr., Istituto Agr. per l'Africa Italiana. Via Fibonacci 13, *Firenze*, IT. ***I.***

CHOPARD (L.), Prof., Laboratoire d'Entomologie du Muséum. 45 *bis*, rue Buffon, *Paris-V*e, FR. ***Ac.***

CHRISTENSEN (P. H.), Lektor, Privatdocent, Dr., Universitetets Institut for almindelig Zoologi. Universitetsparken 3, *Copenhagen*, DA. ***Ap.*** et ***V.***

CLÉMENT (G.), Attachée de Recherches, Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***I.***

CLOYD (W. C.), Dr., Depart. of Zoology and Entomology, University of Tennessee. *Knoxville*, Tennessee, U. S. A.

COBRA (A. P.), R. Boa Morte 1686, *Piracicaba* (Est. São Paulo), BR.

COGHILL (D.), Dr., P. O. Box. 135, *Stellenbosch*, SA. ***I.***

COLE (A.-C.), Dr., Depart. of Zoology and Entomology, University of Tennessee. *Knoxville*, Tennessee, U. S. A. ***F.***

CONSANI (M.), Dr., Via San Nicoló 25, *Firenze*, IT. ***F.***

COSTA LIMA (A. DA), Prof. Caixa Postal 25, *Rio de Janeiro D. F.*, BR. ***T.***

COSTA MACHADO (J.), Escola de Agricultura. Cruz das Almas, *Bahia*, BR.

COUSIN (G.), Prof., 12, rue Cuvier, *Paris-V*e, FR. ***Ac.*** et ***I. S.***

CRANE (J.), Dr., New-York Zoological Park, *New York* 60, N. Y., U. S. A. ***F.***

CREIGHTON (W.-S.), Dr., City College, 139 Street and Convent Ave., *New-York*, N. Y., U. S. A. ***F.***

CUSCIANNA (N.), Dr., Osservatorio Malat. Piante. Corso Cavallotti, *San Remo*, IT. ***F.***

## D

DALY (H. V.), Depart. of Entomology, University of Kansas, *Lawrence*, Kan. U. S. A.

DARCHEN (R. J.), *La Marcelière, par Brézolles* (Eure-et-Loir), FR. ***Ap.***

DELAMARE-DEBOUTEVILLE (C.), Chef de travaux, Laboratoire Arago, *Banyuls-sur-Mer* (Pyrénées-Orientales), FR. ***I. S.***

DELEURANCE (E. P.), Chargé de recherches, Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***V.***

DELMAS (R.), Prof., École Nationale d'Agriculture. *Montpellier* (Hérault), FR. ***Ac.***

DELSOL (M.), Faculté catholique, 21, rue du Plat, *Lyon* (Rhône), FR. ***Ph. I. S.***

DELYE (G.), Laboratoire maritime, Jetée Nord, *Alger* (Algérie).

DENIS (C. L.), 27, rue Sartoris, *La Garenne* (Seine), FR. ***I.***

DESCHAMPS (P.), 127, rue du Ranelagh, *Paris-XVI*e, FR. ***Ph. I. S.***
DESNEUX (J.), Dr., 27, rue Montoyer, *Bruxelles*, BE. ***I.***
DREHER (K.), Dr., Institut für Bienenforschung, *Mayen*, Eifel, *Marburg/Lahn*, DE. ***Ap.***
DREYER (W. A.), Dr., Department of Zoology. University of *Cincinnati*, Ohio, U. S. A. ***P.***

## E

ELTON (E. T. G.), Mariendaal, Osterbeek, NE. ***P.***
EMERSON (A. E.), Prof., Depart. of Zoology, University of Chicago. *Chicago 27*, Illinois, U. S. A. ***I.***
ERNST (E.), Institut tropical Suisse. Socinstrasse 57, *Bâle*, SZ.
EVANS (H. E.), Prof., Depart. of Entomology, Agricult. experim. Stat., Cornell University. *Ithaca*, New York, U. S. A.
EVENIUS (J.), Dr., Wiss. Rat, Landesinst. f. Bienenforschung, Wehlstr. 4 *a*, *Celle*, DE, ***Ap.***

## F

FAESTER (K.), Civilingeniör, Strandgade 25, *Copenhagen*, ***K***, DA, ***V.***
FAIRCHILD (G.), Dr., Gorgas memorial Institute, *Panama City*, U. S. A.
FEYTAUD (J.), Prof., Le Poujeau, *Le Taillan-Médoc*, Gironde, FR. ***I.***
FISCHER (R. L.), Prof., Division of Entomology, University of Minnesota. *Saint Paul 1*, Minnesota, U. S. A. ***Ap.***
FLANDERS (S. E.), Prof., Citrus experiment station, Depart. of Biology control, University of California. *Riverside*, California, U. S. A. ***Ap.***
FLEMING (H.), Dr., New York Zoological Park, *New York* 60, N. Y., U. S. A.
FREE (J. B.), Dr., Rothamsted Lodge, Hatching Green, *Harpenden*, Herts. G.-B.
FRINGS (H.), Dr., Depart. of Zoology and Entomology, Pennsylvania State College. *State College*, Pennsylvania, U. S. A. ***Ph. I. S.***
FRISCH (K. von), Prof., Dir. Zoologisches Institut der Universität München. Luisenstr. 14, *München 2*, DE. ***Ap.***

## G

GARROUSTE (L.), 19 *bis*, avenue Baudoin, *Deuil* (Seine-et-Oise), FR. ***Ap***
GAUL (A. T.), 401 Washington Avenue, *Brooklyn* 5, N. Y., U. S. A. ***G.***
GELMETTI (L.), Dr., Istituto di Zoologia, Università. *Pavia*, IT. ***I.***
GERVET (J.), Laboratoire d'Évolution des Êtres organisés, 105, boulevard Raspail, *Paris VI*e, FR.
GIAVARINI (I.), Prof. Istituto Zooculture, v. s. Giacomo, 8, *Bologna*, IT, ***P.***
GIORDANI-SOIKA (A.), Dr., Istituto Zoologia, Università. *Modena*, IT.
GHIDINI (G. M.), Dr., Via Montevideo 1-9, *Genova*, IT. ***I.***
GLÖCKNER (W.), Dr., Humanist. Gymnasium, Allee 10, *Weiden/Opf.*, DE. ***P.***
GOETSCH (W.), Prof., Barcelona, Pje, *Malügüer* 9, Österreich. ***I.*** et ***P.***
GOETZE (G.), Prof., Dir. Institut f. Bienenkunde der Universität Bonn. Kronprinzenstr. 16, *Bad Godesberg*, DE. ***Ap.***
GOIDANICH (A.), Prof. Istituto di Entomologia Agraria, Università. *Torino*, IT.
GONCALVÈS (D. R.), Prof. Caixa Postal 1784, *Rio de Janeiro*, BR. ***P.***
GONTARSKI (H.), Dir., Institut, f. Bienenkunde a. d. Universität Frankfurt/Main in Oberursel/Taunus. *Eichwäldchen*, DE. ***Ap.***
GÖSSWALD (K.), Prof., Dir. Institut f. Angewandte Zoologie der Universität Würzburg. Röntgenring 10, *Würzburg*, DE. ***P.*** et ***P. S.***
GOTHE (H.), Forstmeister. Vorderburg, *Schlitz/Hessen*, DE. ***P.***
GRANDI (G.), Prof., Istituto Entomologia Università. Via F. Re 6, *Bologna*, IT. ***P.***
GRANDORI (R.), Prof., Istituto Entomologia Agraria e Bachicoltura Università. Via Celoria 2, *Milano*, IT. ***P. S.***
GRANT (H. J.), Academy of Natural Sciences, *Philadelphia*, Pa, U. S. A. ***G.***

GRASSÉ (P. P.), Prof., Directeur du Laboratoire d'Évolution. 105, boulevard Raspail, *Paris-VI^e^*, FR. ***I.***

GREGG (R. E.), Dept. of Biology, University of Colorado, *Boulder*, Colo., U. S. A. ***P.***

GRISON (P.), D^r^, Directeur, Laboratoire de Biocénotique et de Lutte biologique, *La Minière, par Versailles (S.-et-O.)*, FR. ***I. S.***

GUIGLIA (D.), Dr., Museo civico storia naturale. Via Br. Liguria 9, *Genova*, IT. ***P.***

## H

HAAS (A.), Dr., Dozent., Berchmanskolleg. Biol. Abteilung. *Pullach bei München*, DE. ***I. S.***

HAMBLETON (J.), Chief Div. Bee Culture and Biol. Control, U. S. D. A., Agri. Research Center, Bldg A, *Beltsville*, Md., U. S. A. ***Ap.***

HAMMAN (J.), Dr., Termitenstation der Farbenfabriken Bayer, *Leverkusen*, DE. ***I.***

HARRIS (V. W.), British Museum Nat. Hist., Cromwell Road, *London S.W. 7*, G.-B. ***I.***

HASE (A.), Prof., Biologische Zentralanstalt Berlin Dahlem. Archivstr. 15 b, *Berlin Dahlem*, DE. ***V.***

HASKINS (C. P.), Prof., Haskins Laboratories. 305 East 43rd. Street, *New York*, U. S. A. ***P.***

HAYDAK (H.), Dep. of Entomology, University of Minnesota, *Saint-Paul*, Minn., U. S. A.

HEADLEY (A.-E.), 1727 East 45th Street, *Ashtabula*, Ohio, U. S. A. ***P.***

HEPPELL (D.), Stoff C. P. O'. S. Mess, H. M. S. Ricasoli. *Malte*, G.-B.

HERFS (A.), Dr., Im Gerstenkamp. 10, *Köhn-Stammheima*, DE. ***I.***

HEROLD (E.), Pfarrer, Schriftleiter, Weisses Haus. Post *Untereisenheim Unterfranken*, DE. ***Ap.***

HINTERBERGER (H.), Termitenstation der Desowag, Chemie Gesellschaft m. k. u., *Rheinberg Rhld*, DE. ***P.***

HOFFMANN (C.), Institut f. Angewandte Zoologie der Universität. Röntgenring 10, *Würzburg*, DE. ***Ap.***

HOFFMANN (J.), Institut für Tierzüchtung, Abt. Bienenkunde, *Berlin-Dahlem*, Lentze Allee 86, DE. ***Ap.***

HÖJGAARD (M.), Direktör, Danmarks Akvarium. Charlottenlund Slotspark, *Charlottenlund*, DA. ***Ap.***

HOLLANDE (A.), Prof., Laboratoire de Biologie générale, Faculté des Sciences. *Alger* (Algérie), FR. ***I.***

HÖLLDOBLER (K.), Dr., Hauptstr. 51/1, *Ochsenfurt/Main*, DE. ***P.***

HUFFMAN (E. W.), Dr., Depart. of Entomology and Zoology, Ohio State University *Colombus*, Ohio, U. S. A.

HÜSING (J. O.), Dr., Prof. Dir., Zoologisches Institut der Universität, Domplatz 4, *Halle/Saale*, DE. ***Ap.***

## I

IMANISHI (K.), Dr. Jinbun Kagaku Labor. of Kyoto University. *Kyoto*, JA. ***P. S.***

ISHIKAWA (R.), Yoyagi-Honmachi, 756 Shibuya-Ku, *Tokyo*, JA. ***V.***

ITO (M.), Entom. Laboratory, Faculty of Agriculture, Kyoto University. *Kyoto*, JA. ***I.S.***

IWATA (K.), Prof., Entomological Labor., Hyogo University of Agric. *Sasayama*, Hyogo Pref, JA. ***V.***

## J

JAKABI (H.), Dr., Depart. Historia Natural Zoologia, Rua Coronel Dulcidio 638, *Curitiba, Parana*, BR.

JAMIESON (C. A.), Dr., Chief Agriculture Div. Central exper. Farm., *Ottawa*, C.

JOHNSEN (P.), Mag. Scient. Statens Biavlsforsög, « Strödam », *Hilleröd*, DA. ***Ap.***

JOLIVET (P.), Institut Royal des Sciences naturelles de Belgique. 31, rue Vautier, *Bruxelles 4*, BE. ***I. S.***

JOLY (P.), Prof., Laboratoire de Biologie animale. 12, rue de l'Université, *Strasbourg* (Bas-Rhin), FR. ***Ac.***, ***Ap.*** et ***I. S.***

JOSEPH (K.), Attaché de Recherches, Laboratoire d'Évolution, 105, bd Raspail, Paris, FR. ***I. S.***

JÖRGENSEN (P.), Kommunelaerer. Söager 45, *Copenhagen*, Gentofte, DA. ***V.***

JUCCI (C.), Prof., Istituto di Zoologia « L. Spallanzani ». *Pavia*, IT. ***I.***

## K

KAESER (W.), Dr., Institut f. Bienenkunde, Stefan Meier-Str. 26, *Freiburg im Breisgau*, DE. ***Ap.***

KALSHOVEN (L.), Rotonde Weg 2, *Blaricum*, HE. ***I.***

KASHEF (A.), Laboratoire d'Entomologie, Université du Caire (Giza), Égypte. ***I. S.***

KAWAMURA (S.), Biol. Depart., Institute of Polytechnics Osaka, City Univ. *Osaka*, JA. ***P. S.***

KEMPF (W. W.), Dr., Seminario Santo Antonio, Caixa Postal 32, *Agudos S. P.*, BR. ***Ap.***

KERR (W. E.), Dr., Escola sup. de Agricultura Luis de Queiroz, *Piracicaba*, *Est. São Paulo*, BR. ***Ap.***

KEVAN (D. K. McE.), Esq., Zoology Section, Department of Agricultural Science, School of Agriculture, Sutton Monnington, *Loughborough*, Notts. G.-B.

KING (R. L.), Dr., Zoology department, State University of Iowa. *Iowa City*, Iowa, U. S. A. ***P.***

KLOFT (W.), Dr., Privat dozent Institut f. Angewandte Zoologie der Universität. Röntgenring 10, *Würzburg*, DE. ***I.***, ***Ap.*** et ***P.***

KNIERUN (J. A.), Dr., 5004 Park Lake Rd., *East Lansing*, Mich., U. S. A.

KOCH (A.), Direktor und Prof., Bundesforschungsanstalt f. Kleintierzucht Dörnbergstrasse 25/27, *Celle*, DE. ***Ap.***

KOCH (A.), Prof., Paul Buchner Institut f. experimentelle Symbiose-Forschung. Luisenstr. 14, *München 2*, DE. ***P.*** et ***I.***

KÖHLER (F.), Institut f. Angew. Zoologie d. Univ., Röntgenring 10, *Würzburg*, DE. ***Ap.***

KRAMER (S.), Dr., Depart. of Zool. Univ. of Wisconsin, *Madison*, Wisa, U. S. A.

KUGLER (H.), Dr., Degenfelderstr. 5, *München 23*, DE. ***Ap.***

KUSNEZOV (N.), Prof., Instituto Miguel Lillo, 205 *Tucuman*, AR.

KUTTER (H.), Dr., Pharmacien. *Flawil*, Saint-Gall, SZ. ***P.***

## L

LABERGE (W. E.), Dr., Depart. of Zool., Entomology, Iowa State College, *Ames*, Iowas, U. S. A. ***P.***

LAFLEUR (L. J.), University of Akron. *Akron*, Ohio, U. S. A. ***P.***

LANGE (R.), Dr., Forstschutzstelle Südwest, Wittental/Post Ebnet b. *Freiburg/Br.*, DE. ***P.***

LANGE (R. B.), Dr., Cx. Postal 1037, *Curitiba*, Paraná, Brasil.

LARSSON (S. G.), Dr., Holger Danskes Vej 88, *Copenhagen F*, DA. ***P.***

LAVIE (P. E.), Station de Recherches apicoles. *Bures-sur-Yvette* (Seine-et-Oise), FR. ***Ap.***

LAWRENCE (T. C.), 2235 B Ashby Ave., *Berkeley* 5, Cal., U. S. A.

LE BERRE (J.-R.), Station Centrale de Zoologie agricole. Route de Saint-Cyr, *Versailles* (Seine-et-Oise), FR. ***Ac.***

LECLERCQ (J.), Chef de travaux, Laboratoire de Biochimie de l'Université, 17, place Delcour, *Liège*, BE. ***I. S.***

LECOMTE (J.), Station de Recherches apicoles. *Bures-sur-Yvette* (Seine-et-Oise), FR. ***Ap.***

LEDOUX (A.), Professeur, Laboratoire de Zoologie, Faculté des Sciences, *Toulouse* (Haute-Garonne), FR. ***P.***

LEE (G. O)., Dr., Balboa Junior College. Box 1541, *Balboa C. Z.*, U. S. A.

LE GROS (A. E.), Esq. 155 Glenferg Road Catford. *London*, G.-B.

LENGERKEN (H. von), Prof., Dir. Instituts f. Landwirtschaftliche Zoologie der Martin Luther Universität. *Halle-Wittenberg*, DE. ***Ph. I. S.***

LE MASNE (G.), Chef de travaux, Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI^e^*, FR. ***F.***

LERICHE (A.), I. F. A. N. *Saint-Louis*, Sénégal, Mauritanie. A. O. F., FR. ***I. S.***

LEWIS (L. F.), Entomological Research Branch, Delta Branch Experiment Station, *Stoneville*, Miss., U. S. A.

LHÉLIAS (C.), Laboratoire de Génétique évolutive. *Gif-sur-Yvette* (Seine-et-Oise), FR. ***Ap.***

LINDAUER (M.), Dr., Privat Dozent Zoologisches Institut der Universität München, Luisenstr. 14, *München 2*, DE. ***Ap.***

LLAMAS (L. R.), Direct., Instituto Biologia. Casa del Lago, *Chapultepec*, Mexico, U. S. A.

LOUVEAUX (J.), Station de Recherches apicoles. *Bures-sur-Yvette* (Seine-et-Oise), FR. ***Ap.***

LUKOSCHUS (F.), Dr., Leiter der Lehr- und Versuchsanstalt für Bienenzucht *(24 b) Bad Segeberg*, Burgfeldstrasse, DE, ***Ap.***

LÜSCHER (M.), Dr., Prof. Zool., Institut d. Universität *Bern*. SZ. ***I.***

## M

MAGNENAT (C.), 6, rue de la Ferme, *Genève*, SZ. ***Ap.***

MAINA (B. A.), Dept. of Biology, Chicago Junior College, Crane Branch, *Chicago, 12*, Ill., U. S. A. ***Ap.***

MALLACH (N.), Dr., Bayerische Landesanstalt f. Pflanzenbau und Pflanzenschutz. Königinstr. 36, *München 23*, DE. ***Ap.***

MANUNTA (C.), Prof., Istituto di Biologia e Zoologia generale, *Sassari*, IT. ***F.***

MARCUS (H.), Prof., Dr., Exterstr. 36, *München-Pasing*, DE. ***F. I.***

MARÉCHAL (P.), Prof., 48, rue de Campine, *Liège*, BE.

MARKL (W.), Dr., Naturhistorisches Museum. Augustinergasse 2, *Basel*, SZ. ***I. S.***

MARUYAMA (K.), Biol. Lab., Coll. General Education, Univ. Tokyo, *Komaba, Meguroku, Tokyo*, JA. ***Ph. I. S.***

MARTELLI (M.), Prof., Istituto Entomologia Agraria. Piazza conte Moriana 8, *Sassari* IT. ***P. S.***

MATHEWSON (J. A.), Dept. of Agric. and Conservation, State of Rhode Island, 83 Park Street, *Providence*, R. I., U. S. A.

MATHIS (M.), Dr., Institut Pasteur. *Tunis* (Tunisie), FR. ***Ap.***

MAUERMAYER (G.), Dr., Böcklinstr. 60, *München 19*, DE. ***Ap.***

MEADOWS (V. J.), Esq., 66a High Street, *Weedon*, Bec, Northants. G.-B.

MELIS (A.), Dr., Stazione Entomologia Agraria. Via Romana 15-17, *Firenze*, IT. ***P. S.***

MEYER (G.), Dr., Bundesforschungsanstalt für Virus Krankheiten der Tiere, *Tübingen*, DE. ***F.*** et ***I.***

MEYERHOFF (G.), Dr. Dozentin, Institut für Bienenkunde der Humboldt-Universität, Engelsstr. 58-65, *Hohenneuendorf b. Berlin*, DE. ***Ap.***

MICHENER (C. D.), Prof. Depart. of Entomology, University of Kansas. *Lawrence*, Kansas, U. S. A. ***Ap.***

MILLER (E. M.), Dr., Depart. of Zoology, University of *Miami*. Coral Gables Florida, U. S. A. ***T.***

MILNE (P. S.), Esq., Rothamsted Lodge, Hatching Green, *Harpenden*, Herts. G.-B.

MONTCHADSKY, Dr., Prof. Zoological Institute, Academy of Sciences of the U. S. S. R., *Leningrad 164*, U. S. S. R. ***I. S.***

MOREAUX (R.), Dr., 20, rue Verlaine, *Nancy* (Meurthe-et-Moselle), FR. ***Ap.***

MORLEY (D. W.), 14 Downshire Hill. *Hampstead N. W. 3*, G.-B. ***F.***

MOSER (J. C.), Depart. of Entomology, Cornell University, *Ithaca*, N. Y., U. S. A.

MOSERK (J.-C.), 1335 Elm wood Ave., *Columbus*, Ohio, U. S. A.

MOSZKOWSKI (L. I.), Depart. of Entomology, University of California, *Los Angeles*, Calif., U. S. A.

MOURE (J. S.), Prof., C. P. 153. *Curitiba*, Est. Parana, BR. ***Ap.***
MUIR (D.), Dr., Depart. of Zoology, The University. *Glasgow W. 2*, G.-B. ***F.***

## N

NOGUEIRA-NETO (P.), Av. Cidade Jardim 264, *São Paulo*, BR. ***Ap.***
NOIROT (C.), Maître de Conférences, Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***I.***
NÖSTVIK (E.), Knivholtvej 5, *Copenhagen F.*, DA. ***V.***
NÒVAK (Vl.), Dr., Biological Institute of the Czechoslovak Academy Sciences. Na Cvičište 2. *Praha* 6/XIX/Czechoslovakia.

## O

OHGUSHI (R.), Zool. Inst., Coll. Sc., Kyoto University. *Kyoto*, JA. ***Ap.***
OHNENSORGE (I.), Dr., Humperdinck, Reinerzstrasse 3, *Berlin-Grunewald*, DE. ***Ap.***
O'ROURKE (F. J.), Depart. Zoology, University College, *Cork*, Eire, G.-B.

## P

PAIN (J.), Laboratoire de Recherches apicoles. *Bures-sur-Yvette* (Seine-et-Oise), FR. ***Ap.***
PALM (N. B.), Prof., Zoological Institut, University. *Lund*, SW. ***I. S.***
PARDI (L.), Prof., Istituto di Zoologia, Università. Via Volta 4, *Pisa*, IT. ***V.***
PARK (O.), Depart. of Zool., Northwestern University, *Evanston*, Illinois, U. S. A.
PASQUIER (R.), Prof., Institut Agricole d'Algérie. Maison Carrée, *Alger* (Algérie), FR. ***Ac.***
PATRIZI (A.), Prof. P. Farnese 51, *Roma*, IT. ***F.***
PAULIAN (R.), Dr., Institut de Recherches scientifiques de Madagascar. B. P. 434, *Tananarive* (Madagascar), FR. ***I. S.***
PAVAN (M.), Dr., Istituto di Anatomia comparata, Università. *Pavia*, IT. ***F.***
PEACOCK (A. D.), Prof., Natural History Department, Queen's College, *Dundee*, G.-B.
PESSON (P.), Prof., Institut National Agronomique. 16, rue Claude-Bernard, *Paris-V*e, FR. ***I. S.***
PICKENS (A. L.), Prof., Queens College. *Charlotte 7*, North Carolina, U. S. A. ***I.***
PONTIN (A. J.), Esq., Hope Department of Entomology, University Museum, *Oxford*, G.-B.
POOLE (T. B.), 19 Lynton Avenue, Toller Lane, *Bradford*, Yorks, G.-B. ***Ap.***
POPOV, Dr., Prof. Zoological Institute, Academy of Sciences of the U. S. S. R., *Leningrad 164*, U. S. S. R. ***Ap.***

## Q

QUÉNU (C.), Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI*e, FR. ***Ap.***

## R

RAIGNIER (S.-J.), Prof., 11, rue des Récollets, *Louvain*, BE. ***F.***
RAMBIER (A.), Laboratoire de Faunistique. I. N. R. A., École Nationale d'Agriculture. *Montpellier* (Hérault), FR. ***Ac.***
RAMIREZ (G. C.), Serviço Defesa agricola, Secretaria de Agricultura. *Porto Alegre*, *R. G. S.*, BR. ***I. S.***
REICHENSPERGER (A.), Prof., Zoologisches Institut. Buschstr. 22, *Bonn/Rhein*, DE, ***My*** et ***Te.***
REID (A. L.), Dr., Entomology Div. Rutgers University, *New. Brunswick*, N. Y., U. S. A.
REMAUDIÈRE (G.), Dr, Institut Pasteur. 28, rue du Docteur-Roux, *Paris-XV*e, FR. ***Ac.***
REYMOND (A.), Institut scien'ifique chérifien. Avenue Biarnay, Rabat (Maroc), FR.

RETTENMEYER (C.), Dept. of Entomology, University of Kansas, *Lawrence*, Kansas, U. S. A.

RETTENMEYER (C.), 64 Wilcox Avenue, *Meriden*, Connecticut, U. S. A.

RHEIN von (W.), Dr., Lehr- und Forschungsanstalt f. Wein-, Obst- und Gartenbau. *Geisenheim/Rhein*, DE. ***Ap.*** et ***I. S.***

RIBBANDS (C. R.), Dr., School of Agriculture, Downing Street, *Cambridge*, G.-B.

RICHARD (G.), Maître de Conférences, Faculté des Sciences, *Rennes* (I.-et-V.), FR. ***I.*** et ***I. S.***

RICHARDS (O. W.), Prof., Department Zoology, Imperial College of Science et Technology, *London*, S. W. 7., G.-B.

ROBERTS (W. C.), 102 King Hall, University of Wisconsin, *Madison*, 6 Wis., U. S. A. ***Ap.***

ROEDER (K. D.), Dr., Dept. of Biology, Tufts College, *Medford*, Massachusetts, U. S. A.

RÖSZLER (P.), Prof., Plittersdorf über Rastatt, *Baden*, DE. ***F.***

ROTHSTEIN (J.), 21E Bergen Place, *Red Bank*, N. Y., U. S. A.

ROUBAUD (C.), Prof., Institut Pasteur. 96, rue Falguière, *Paris-XV*$^{e}$, FR. ***Ap.*** et ***P. S.***

ROZIÈRES (E.), 68, avenue de Clichy, *Paris-XVII*$^{e}$, FR. ***Ap.***

RUSSO (G.), Dr., Istituto di Entomologia Agraria, Università. *Portici*, IT. ***P. S.***

## S

SAKAGAMI (S.), Dr., Zool. Inst., Fac. Sc., Hokkaido University. *Sapporo*, JA. ***P. S.*** et ***Ap.***

SALFI (M.), Dr., Istituto di Zoologia, Università. *Napoli*, IT. ***I. S.***

SALLEE (R. M.), 131, North Normal Str. or Western Illinois, State College, *Macomb*, Illinois, U. S. A.

SANDS (W. G.), Esq., Termite Research Unit, Brit. Museum (Nat. History), Cromwell Road, *London*, S. W. 7, G.-B.

SANTIS (L. de), Facultad de Ciencias Naturales y Museo Ciudad Eva Peron, AR.

SANTOS (G. R. DOS), A/C. Warwick E. Kerr. Escola sup. Agric. Luis de Queiroz, *Piracicaba*, Est. São Paulo, BR.

SCHALLER (F.), Assistant, Laboratoire de Biologie générale, Faculté des Sciences. *Strasbourg* (Bas-Rhin), FR. ***Ap.***

SCHERBA (G.), Route 2, Box 209 B, Chico California or Chico State College, *Chico*, Cal., U. S. A. ***F.***

SCHMIDT (H.), Dr., Bundesanstalt f. Forst und Holzwirtschaft. *Wentorf bei Reinbek* (Bez. Hamburg), DE. ***I.***

SCHMIDT (R.-S.), Illinois State Normal Univ. *Normal*, Ill., U. S. A.

SCHMITZ (PATER H.), Dr., Aloisiuskolleg, Museum Wasmannianum. Elisabethst. 18, *Bad Godesberg*, DE. ***My.*** et ***Te.***

SCHNEIRLA (T. C.), Prof., Depart. of Animal Behavior, American Museum of Nat. Hist. 79th. Street, Central Park West, *New York 24*, N. Y., U. S. A. ***F.***

SCHÖTT (T.), Kragskovhede-Lejren, *Jerup*, Vendsyssel, DA. ***Ap.***

SCHUA (L.), Dr., Regierungsgebäude, Petersplatz, *Würzburg*, DE. ***Ap.***

SCHULZ (E.), Dr., Institut f. Bienenkunde, Abteilung des Instituts f. Tierzüchtung und Haustiergenetik. Lentze Allee 86, *Berlin-Dahlem*, DE. ***Ap.***

SCHULZE-DEWITZ (G.), Dipl. Forstwirt, Institut für physikal. Holztechnol. der Humboldt Univers., Schickler Str. 5, *Berlin in Eberswalde*, Mark, DE. ***I.***

SCHWARZ (H.), Depart. of Insects and Spiders, American Museum of Nat. Hist. 79th. Street, Central Park West, *New York 24*, N. Y., U. S. A. ***Ap.*** et ***P. S.***

SEEVERS (C. H.), Dr., Roosevelt College. 430 S. Michigan avenue, *Chicago 5*, Illinois, U. S. A. ***T.***

SERVADEI (A.), Prof. Ist. Entom. Universita, *Padova*, IT. ***F.***

SHAPLEY (H.), Dr., Harvard College Observatory. *Cambridge 38*, Massachusetts, U. S. A.

SHIDA (T.), Anatomical Inst., Tokyo medical Fac. *Tokyo*, JA. ***V.***

SIBUYA (K.), Zool. Inst., Coll. Sci., Kyoto Univ. *Kyoto*, JA. ***V.*** et ***F.***

SIDDORN (J. W.), Esq., Imperial College Field Station, Silwood Park, *Sunninghill* Berks, G.-B.

Silvey (J. K. G.), 310 Bonine Brae, *Denton*, Texas, U. S. A.
Simeone (J. B.), Dr., New York State College of Forestry. *Syracuse*, N. Y., U. S. A.
Simpson (J.), Dr., Rothamsted Lodge, Hatching Green, *Harpenden*, Herts.
Skaife (S. H.), Dr., « Tierbos », *Hout Bay*, South Africa.
Smith (M. R.), Div. of Insect Identification, Bureau of Entomology and Plant quar., *Washington*, D. C., U. S. A. ***F.***
Snyder (T. E.), Room 385, United States National Museum. *Washington 25*, D. C., U. S. A. ***I.***
Spieth (H.), Division of Life Sciences. University of *California*, *Riverside*, California, U. S. A.
Springhetti (A.), Dr., Istituto di Zoologia « L. Spallanzani ». *Pavia*, I. T. ***I.***
Soulard (R.), « Soumayon », *Sausset-les-Pins* (Bouches-du-Rhône), FR. ***Ap.***
Soulié (J.), Faculté des Sciences. Allées Saint-Michel, *Toulouse* (Haute-Garonne), FR. ***Ap.***
Stammer (H. J.), Prof., Dir. Zoologisches Institut. Universitätsstr. 18, *Erlangen*, DE. ***I. S.***
Steinberg (D. M.), Dr., Prof. Zoological Institute, Academy of Sciences of the U. S. S. R., *Leningrad 164*, U. S. S. R. ***I. S., T.***
Stella (E.), Istituto di Zoologia, Università. Via Regina Margherita 306, *Roma*, IT.
Stephen (W. A.), Extension Beekeeper, North Carolina State College, State College Station, *Raleigh*, N. Car., U. S. A. ***Ap.***
Stephen (W. P.), Oregon State College, *Corvallis*, Oregon, U. S. A.
Stumper (R.), Ingénieur chimiste, 94, rue du Fossé, *Esch-sur-Alzesse*, LU. ***F.***
Stute (K.), Dr., Bundesforschungsanstalt f. Kleintierzucht. Dörnbergstrasse 25/27, *Celle* (20 a), DE. ***Ap.***
Sweeney (R. C. H.), Min. of Agriculture, *Kadugli*, Kordofan Prov., A. E. Sudan, Africa.

## T

Tacchini (I.), Dr., Sale Marasino, *Brescia*, IT. ***I.***
Tafuri (J. F.), Dr., Xavier University, *Cincinnati*, Ohio, U. S. A.
Takamatsu (Y.), Dr., Biological Laboratory, Nagoya City University, *Nagoya*, JA. ***Ph. I. S.***
Talbot (M.), Dept. of Biology, Lindenwood College, *St. Charles*, *Missouri*, U. S. A. ***F.***
Thorpe (W. H.), Prof., Zoological laboratory, Downing Street, *Cambridge*, G.-B.
Toumanoff (C.), Dr., 8, avenue de la Porte-de-Châtillon, *Paris-XIV^e^*, FR. ***Ap.***
Trabert (Pater C.), Studienseminer St. Augustin, Bismarkstr, 25, *Weiden*, Opf., DE. ***F.***
Tsuneki (K.), Prof., Biol. Lab., Fukui Univ., Makinoshima-Machi, *Fukui*, JA. ***Hy.***
Tulloch (G. S.), Department of Biology, Brooklyn College, *Brooklyn 10*, N. Y., U. S. A. ***F.***

## U

Uchida (T.), Prof., Zool. Inst., Fac. Sc., Hokkaido University. *Sapporo*, JA. ***Ap.***
Ueno (S.), Zool. Inst., Coll. Sci., Kyoto University, *Kyoto*, JA. ***My, Te.***
Ulrich (W.), Prof., Dr., Dir., Zoologisches Institut der Freien Universität Berlin. Königin Luisestr. 1-3, *Berlin-Dahlem*, DE. ***Ap.*** et ***I.***
Umesao (T.), Biol. Depart., The Institute of Polytechnics, Osaka City Univ. *Osaka*, JA. ***P. S.***
Utida (S.), Prof., Entom. Laboratory, Coll. of Agriculture, Kyoto University. *Kyoto*, JA. ***P. S.***

## V

Valentini (S.), Prof., Lycée Carnot. 56, boulevard Vauban, *Tunis*, FR. ***F.***
Vandel (A.), Prof., Laboratoire de Zoologie, Faculté des Sciences. *Toulouse* (Haute-Garonne), FR. ***F.***

VARANI (A.), Dr., Istituto di Zoologia « L. Spallanzani ». *Pavia*, IT. ***I.***
VAYSSIÈRE (P.), Prof., Laboratoire d'Entomologie agricole coloniale, Muséum, 57, rue Cuvier, *Paris-V^e^*, FR. ***Ac.***
VENTURI (V.), Dr., Istituto di Entomologia Agraria, Università. *Pisa*, IT. ***F.***
VERDIER (M.), Chef de travaux, S. P. C. N., 12, rue Cuvier, *Paris-V^e^*, FR. ***Ac.***
VERGÉ (J.), Ingénieur, Station de Recherches apicoles. *Bures-sur-Yvette* (Seine-et-Oise), FR. ***Ap.***
VERNALHA (M.), Caixa Postal 7119, *São Paulo*, BR.
VERRON (H.), Laboratoire d'Évolution, 105, boulevard Raspail, *Paris-VI^e^*.
VIAUD (G.), Prof. Laboratoire de Psychophysiologie, Faculté des Sciences, *Strasbourg* (Bas-Rhin), FR.
VLEUGEL (D. A.), A. de Haenstraat 53 *'s-Gravenhage*, NE. ***I. S.***
VUILLAUME (M.), Dr., Chef de travaux, Laboratoire de Biologie Animale, Faculté des Sciences, *Rennes* (Ille-et-Vilaine).

## W

WAHL (O.), Dr., Lehr. und Versuchsanstalt f. Bienenzucht und Seidenbau. Wilhelm-Roserstr. 25, *Marburg/Lahn*, DE. ***Ap.***
WEAVER (N.), Depart. of Entomol. Texas Agricultural Experiment Station, College Station, Texas, U. S. A.
WEBB (D. A.), Prof., Department of Zoology, Queen Mary College, Mile End Road, *London*, E.1., G.-B.
WEBER (N. A.), Dept. of Biology, Swarthmore College, *Swarthmore*, Pa., U. S. A. ***T.***
WEESNER (F. M.), Depart. of Zool. University of *California*, *Berkeley 4*, Californie, U. S. A.
WEIDNER (H.), Dr., Prof., Kustos, Zool. Staatsinstitut und Zoologisches Museum Hamburg. Bornplatz 5, *Hamburg 13*, DE. ***I.***
WEIR (J.), Depart. of Zoology, The University. *Glasgow W. 2*, G.-B. ***F.***
WELLENSTEIN (G.), Dr., Dozent Forstschutzstelle Südwest, *Wittental*, Post Ebnet, b. Freiburg, DE. ***F.***
WERNER (W.), Dr., Zool. Institut Freie Univ., Königin-Lüise Str. 1-3, *Berlin*, DE. ***Ap.***
WEYER (F.), Prof., Bernhard Nocht-Institut f. Schiffs- und Tropenkrankheiten, Tropeninstitut. *Hamburg 4*, DE. ***F.*** et ***I.***
WHEELER (G. C.), University of North Dakota, *Grand Forks*, N. DAK. ***F.***
WHELDEN (R. M.), Dr., Haskins Laboratory, Union College. Schenectady 8, *New York*, U. S. A.
WILKINSON (W.), Esq., Termite Research Unit., British Museum (Natural History), Cromwell Road, *London*, S. W. 7. G.-B.
WILLINK (A.), Instituto Miguel Lillo, University Nacional de *Tucuman*, AR.
WILSON (E. O.), Biol. Lab. Harvard University, *Cambridge*, Massachusetts, U. S. A. ***F.***
WING (M.), 708 Glascock Street, *Raleigh*, North Carolina, N. C., U. S. A. ***F.***
WOHLFAHRT (Th. A.), Prof., Zoologisches Institut der Universität Würzburg. Röntgenring 10, *Würzburg*, DE. ***F.***
WOHLGEMUTT (E.), Dr., Dir. Nieders. Landes. Inst. f. Bienenforschung Wehlstraße 4 *a*, *Celle*, DE. ***Ap.***
WOLF (H.), Studienreferendar, Kampenstrasse 1, *Siegen*, DE. ***F.***
WOLTHERS (P.), Cand. mag., Slotsgade 6, *Hilleröd*, DA. ***Ap.***

## Y

YAMAMOTO (S.), Ōi Kaneko-Chō. 5840, Shinagawa-Ku, *Tokyo*, JA, ***V.***
YAMANAKA (M.), 13, 5, Nagasaki, *Toshima-Ku*, Tokyo, JA.
YASUMATSU (K.), Dr., Entom. Lab. Fac. of Agric., Kyushu Univ., *Fukuoka*, JA. ***Hy.***
YOSHIKAWA (K.), Biol. Dep., Inst. Polytechnics, Osaka City University. *Osaka*, JA. ***V.***
YOUNG (J.), 415 West 7th Street, *Stillwater*, Oklahoma, U. S. A.

## Z

ZANDER (E.), Prof. em., Rathsbergerstr. 7, *Erlangen*, DE. ***Ap.***
ZAPPI RECORDATI (L.), Dott., v. Regina Margherita 199, *Roma*, IT. ***F.***
ZWÖLFER (W.), Prof., Institut f. angewandte Zoologie. Amalienstr. 52, *München 13*, DE. ***P. S.***

*Liste alphabétique des collectivités membres de l'U. I. E. I. S.*

***American Museum of Nat. Hist., library,*** Central Park West at 79th. Street, *New York 24*, U. S. A.
***Argus de la Presse,*** 37, rue Bergère, *Paris-IX*e.
***Bibliothèque de C. N. R. S.,*** 13, quai Anatole-France, *Paris-VII*e.
***Bibliothèque du Laboratoire d'Évolution,*** 105, boulevard Raspail, *Paris-VI*e.
***Bibliothèque nationale,*** Régie du dépôt légal des périodiques, rue Richelieu, *Paris.*
***Bibliothèque de la Station Biologique des Eyzies,*** *Les Eyzies* (Dordogne), France.
***Bibliothèque de l'Université,*** *Lund*, Suède.
***Brooklyn College library,*** Bedford avenue and avenue H, Brooklyn, *New York*, U. S. A.
***Centre d'Études du Bouchet,*** Vert-le-Petit (Seine-et-Oise).
***Établissement fédéral d'industrie laitière, Section Apiculture,*** *Liebefeld-Berne*, Suisse.
***Flory Jean,*** bibliothécaire, 13, rue de Buci, *Paris-VI*e.
***Harvard University library,*** *Cambridge*, Massachusetts, U. S. A.
***Harvard Tilton memorial library,*** Audubon Place and Freret Street, *New Orleans*, Louisiana, U. S. A.
***Institut Pyrénéen du Miel,*** *Ossun* (Hautes-Pyrénées), France.
***Institut Royal des Sciences naturelles de Belgique,*** Entomologie, 31, rue Vautier, *Bruxelles.*
***Library Department of agriculture,*** University of Minnesota, University Farm, *Saint-Paul*, Minnesota, U. S. A.
***Library, Oregon state College,*** *Corvallis*, Oregon, U. S. A.
***Martinus Nijoff,*** Lange Voorhout 9, *La Haye*, Pays-Bas.
***National Institutes of Health, library,*** *Bethseda*, Maryland, U. S. A.
***Office of the Forest research institute and Colleges,*** P. O., *New Forest* (Dehra Dun), U. P. India.
***Ohio State University, library,*** *Columbus 17*, Ohio, U. S. A.
***Periodical division, University of Illinois, library,*** *Urbana*, Illinois, U. S. A.
***Statens-Biavlsforsög « Strödam »,*** Hillerod, DA.
***The Bee Research Association,*** 55 Newland, *Hull*, York, G.-B.
***Tulane University library,*** *New Orleans*, Louisiana, U. S. A.
***University of Kansas, Periodical Depart. library,*** *Lawrence*, Kansas, U. S. A.
***University of Minnesota, library,*** *Minneapolis*, Minnesota, U. S. A.
***University of Wisconsin, Biological library,*** *Madison*, Wisconsin, U. S. A.
***Zoologisches Institut der Freien Universität Berlin,*** *Berlin-Dahlem*, Königin-Luise-Strasse 1-3, DE.

## *THE THIRD ANNUAL MEETING OF THE JAPANESE SECTION IN FUKUOKA*

*(October 20. 1956).*

The third annual meeting of the Japanese Section was held, in conjunction with the annual meeting of the Zoological Society of Japan in Fukuoka at "Keiaien"-Hall of the Faculty of Medicine, Kyushû University. The meeting was called to order by Prof. Tohru UCHIDA, President of the Section, at 16.50. In the absence of the Secretary, Mr. R. Ohgushi served as chairman pro tem. There were present only five members of U. I. I. S., but 13 guests as follows:

*Members*: KUWABARA (M.), MORISITA (M.), OHGUSHI (R.), UCHIDA (T.), YOSHIKAWA (K.).

*Guests*: FUJIMOTO (Y.), FUKAMACHI (U.), HONJO (I.), IKUSHIMA (K.), KAWABATA (M.), KIKUCHI (T.), KUBO (Y.), MIYOSHI (R.), MURAKAMI (Y.), NISHIYAMA (I.), NOMURA (K.), ONO (Y.), YANAGIDA (T.).

*Chairman*: Mr. OHGUSHI.

*Management*: Mr. KAWOBATA, Mr. ONO (not the members of U. I. I. S. but served with kindness).

A. **Business Meeting** (16.50 - 17.30).

1. After the brief report of the general affairs during the year, the chairman demanded for members the more vivid sending of manuscripts to "Insectes Sociaux", and of the abstracts of their annual works to the Secretariat. Several administrative problems were discussed among the members.

2. On the place and time of the Annual Meeting, it was decided that the Meeting ought to be held always in conjunction with the Annual Meeting of the Zoological Society of Japan. Because of the absence of Prof. Tsuneki of Fukui University (locatateed nea Kanazawa where the next Annual Meeting of the Z. S. J. is held), and the secretary, no decision was given respect to the exact plan of the next Annual Meeting.

3. The standarization of technical terms was proposed by the chairman, but no concrete opinions were presented.

B. **Lectures** (17.30 - 18.30).

1. KUWABARA (M.). — Individual and group in honeybee. Discussions between the lecturer and Mrs. Ohgushi, Uchida, Kawabata, Honjo, Morisita, Fujimoto, Yoshikawa and Ono.

2. MORISITA (M.). — Sociality and Individuality among animals.

The lectures ended on 18.30.

C. **Dinner** (18.30 - 19.30).

## TRAVAUX PUBLIÉS PAR DES MEMBRES DE L'UNION

1954. Itô (M.). — **Experimental studies on the mechanism of aggregation formation with special reference to the border effects of movement of the red-rust flour beetle** (*Physiol. & Écol.*, **6** (1), 55-62, in Japanese with English résumé). A study on the mechanism of aggregation formation in *Tribolium castaneum*, with reference to the change of aggregation degrees under different environmental conditions. Three main causal factors were discovered. 1. Sexual attraction among animals, 2. Non-sexual attraction, 3. Border effects. The outermost zone of the exp. field always gave higher frequency values than inner zones. This border-effects cannot be fully explained by the thigmotactic concepts, and will be served for the evaluation of the behavioral coaction of the social insects.

1955. — **On the meaning of the « air-space » in the population growth of the red-rust flour beetle,** *Tribolium castaneum* (Herbst), (*Oyô-Kontyû*, **11** (1), 25, in Jap. with English résumé). The ecological significance of the « air-space » above flour for the population increase, esp. for the oviposition behavior was examined. Some significance against the adult behaviors such as courtship, copulation and burrowing were observed, but without the functional differentiation of chambers as in some bark-beetles. Comparing the differences betw. « air-space » and non air-space » blocks, the former exceeds in the no of eggs deposited, max. oviposition numbers etc. after five days from the start.

1955. — **Basic properties of social insects. On the group effect observed in certain gregarious insects, from the view point of the comparative sociology.** (*Biol. Sci.*, **7**, (2), 67, in Japanese.)

1955. Iwata (K).. — **The comparative anatomy of the ovary in Hymenoptera. Part I. Aculeata** (*Mushi*, **29**, (4), 17-34, English) In connection with the habits of female Aculeata, the number of ovarioles, of mature and immature oocytes etc. were studied with 160 spp. of Aculeata, including 13 spp. of Formicidae, 10 spp. of social Vespidae, and 4 spp. of social Apidae.

1956. — **Insects and their nests,** iii-251 pp. with 8 plates (Rikusuisha, Tokyo, in Japanese). A comprehensive treatise on various types of nests found among insects. The book is consisted of the following eleven chapters: 1. Houses and nests, 2. Insects which build no nests, 3. Insects which hide themselves in food, 4. Insects which build nest since immature stages, 5. Insects depositing their progeny in the nest of other species, 6. Insects which build the nest and store the food for their own progeny, 7. Insects which utilize the ability of other species for their own progeny, 8. Insects which provide successively the food for their own progeny in the nest. 9. Insects which utilize their daughters' ability for nesting and brood-rearing, 10. Insects which utilize the ability of other species for nesting and brood-rearing, 11. Supposed history of the development of nests. The subsocial and social insects are treated mainly in chapters 7 - 9 but occasionally also in others. The book is written based upon the author's rich experience obtained during several decades and contains numerous original considerations.

1954. KUWABARA (M.), MAENO (T.), MATSUNAGA (T.). — **Relative stimulating effectiveness of various cations on the chemoreceptors of mouth part in the honeybee,** *Apis mellifera* (*Physiol. & Écol.*, **6**, 40, in Japanese with English résumé). With various cations, relative stimulating effectiveness was investigated on the chemoreceptors of mouthpart of the honeybee. Chlorides were used as the test compounds, and the rejection threshold concentrations in M/4 sucrose solution were determined. Taking the reciprocal of rejection threshold as a criterion for measuring the effectiveness of stimulation, the following series was obtained : $Li^+ < Na^+ = K^+ < NH^+ < Mg^{++} = Sr^{++} = Ba^{++} < Ca^{++}$. The series is similar to that concerned with the acceleration of the swelling of gelatine, it seems to be correlated with the lyotropic series.

1956. SAKAGAMI (Sh. F.). — **Zur Wahrnehmungspsychologie der optischen Dressur bei der Honigbiene. Beitrag I : Dressierbarkeit gegen konturarme Figur gestellt auf konturreichem Grund** (*J. Fac. Sci., Hokkaido Univ., Ser. VI, Zool.*, **12**, 333-361). Ein bis heute tatsächlich erfolglos gebliebener Versuch, die Dressur der Biene auf die konturarme Gliederung gegen die konturreiche, wurde durch Verwendung der ausgetauschten Figur und Grund Beziehung ausgeführt. Dressur der Biene mit Futterglas auf Situation Kreis/Muster erfolgte in gelbem Kreis sehr leicht u. sicher, in schwarzem Kreis, dagegen sehr labil, und nur dann, wenn das Futterglas gleichzeitig dargeboten wurde. Erst durch direkte Futterung auf Glasplatte suchten die Bienen zieltreu Kreis/Muster. Kontrollversuche bewiesen, daß selbst die absolute Primärtendenz zur konturreichen Struktur, sogar nach Bildung der Dressur auf Kreis/Muster, nicht verloren, sondern durch Reizkonstellation nur gehemmt ist. Die räumlichen u. zeitlichen Auflösungen der Biene in der Versuchssituation analysiert. Einige Erörterungen über die Wahrnehmungsorganisation ihres Sehfeldes gegeben.

1953. SHIDA (T.). **Seven years with** *Vespula lewisii*, I (*Hachi, No.* **8**, 1, in Japansese, mimeographed). The males leave their nest in the end of autumn. In this period, their stomach is filled with a plenty of honey which may serve as a energy source during his automnal flight. The fulfilment of stomach proceeds in correlation with the development of reproductive organs. Both the processes are completed before leaving from their nest. This fact explains why they cannot find abundantly on the flowers, in contrast to the male of *Dolichovespula*, and why they can fly about actively without accumulated fat-bodies.

1849. TAKAMATSU (Y.). — **Studies on Vespula lewisii** (Cameron) III. **On the nest-leaving of the new queen at the latter part of autumn.** (*Physiol. & Écol.*, **3**, 38, in Japanese with English résumé). During the autumn of 1947, the measurement of nest temperature was undertaken with a large nest of *V. lewisii*. Means of max. & min. daily temperature during the obs., were 15°.94°° and-1°.93° C in outdoor and 13.43° & 3.45° cin the nest. The nest-leaving of new queens was taken place mostly betw. 10.00 - 13.00 (93.7 %). In all 874 leaved queens during. 21 days, no orientation flight and returning to their nest were observed.

1951. — **Studies on... IV. On the quantitative relations, with reference to sex, between the length and weight of the body and the length of the wing in all members constituting one nest** (*Pysiol. & Écol.*, **4**, 102-104, in Japanese with English résumé). From the measurements on all members constituting one nest (♀ 190, ♂ 610, ♀ 825 at November), the following results were obtained: 1. Relative values among body length, body weight and wing length are in good agreement with the behaviors of the queen, drone and worker. 2. In later autumn, ratio (body weight/body length) is largest in queens and smallest in workers, which accords with anatomical evidences as well as with ecological fates of three castes.

1951. — **Studies.. V. On the form and histological structure of the central nervous system** (*Bull. Fac. Agric., Shinshu Univ., No.* **1**, 57-67, in Japanese with English

résumé). Descriptions of the general structure of nervous system in larvae and adults, especially with detail histological observations of the brain.

1952. — **Studies on the mechanism of the determination of the sexual function in** *Vespula lewisii* (Cameron) (*J. Fac. Agric. Shinshu Univ.*, *No.* **2**, 1-46, in Japanese with English résumé). Differences btw. queen and worker ovaries were described. Well developed follicular cells and oocytes in queen ovaries show a sharp contrast to remarkablly atrophied worker ones. Corpora allata increase its volume during metamosphosis, but decrease distinctly at the pupal stage. Rate of decrease is largest in drone and smallest in queen. Hence the relative size of the organ among three castes is 6.78 (♀): 1.38 (♀): 1 (♂). This order represents simultaneously the degree of activities observed histologically. Various ligation and decapitation experiments were performed.

1955. Taniguchi (S.). — **Biological studies on the Japanese bees II. Studies on the nesting behaviour of** *Bombus ardens* Smith. (*Sci. Rep. Hyogo Univ. Agric.*, 2, *Ser. Agric.* **89**). The first record of the nest of *B. ardens*. The nesting life of this species ends early in July. The following items were observed. 1. Behaviour of foragers and new females (diurnal rhythm of foraging, behaviour in departure and return, density of trips in a day time, behav. of marked individuals, pollen-roads, the last day of workers). 2. Males and the copulation of new females. 3. Flower visited by *B. ardens*.

1955. Uchida (T.), Sakagami (Sh. F.). — **The seasonal population-trends of the honey-bee in Sapporo, with some remarks on supersedure** (*Jap. J. Zool.*, **11**, 55). The seasonal changes of population number in three colonies were illustrated by Bodenheimer's method with minor modifications. Because of the colder climate in Sapporo, the seasonal shift of pop. growth was clear when compared with Bodenheimer's results in Jerusalem and Nolan's one in Baltimore. In all cases the supersedure occured after the pop. peak was attained in June or July, but in two colonies a two-peak curve was obtained caused by the autumnal recovery. From a close correlation between formation of royal chambers and lowered brood/nurser ratio, it was assumed that the overpopulated nursers for the decreased broods seemed to be one of the important factors to evoke the supersedure (or swarming). Finally, the importance of the further studies on the longevity estimation was emphasized by illustrating a marked difference in total pop. number resulted by two different estimations.

1952. Utida (S.). — « **Phase** » **dimorphism observed in the laboratory population of the cowpea weevil,** *Callosobruchus quadrimaculatus* (*Oyô-Dobuts. Zasshi*, **18**, 161-168, in Japanese with English résumé). In the laboratory population of the cowpea weevil, dimorphic forms were found out. They differ each other in body form, abdominal structure, color, indiv. variation in the body size, movement, duration of adult life, adult body weight when emerged, number of eggs deposited, death feigning and heat resistance. These dimorphic forms seem to arise from the influence of environment and not due to genetical cause. Some experiments support the explanation that these forms are caused by the difference of the density effect operating in the period of larval development (After Author's summary). It seems to be suggestive to the social dimorphism of the social insects that the phenomenon resembling to the « phase » variation was observed depend on the pop. density in any biol. characters of insects (by M. Itô).

1952. — **Space of iso-effect of density** (*Research on Pop. Écol.*, **1**, 119-121, in Japanese with English résumé. Some conceptions in the pop. ecology is here proposed to understand clearly the pop. phenomenanin a heterogeneous environment. To test the homogeneity of an environment, the density effects is used, and the space of

iso-effect of density is termed as an unit space fort the measurement of density. In this space, the Pearl-Verhulst coefficient *h* takes a constant value. Against to the crude density, we call this density as the *eco-density* (after Author's summary). The conceptions will be served for qualitative evaluation of the social character of insects (by M.Itô).

1955. Yoshikawa (K.). — **A polistine colony usurped by a foreign queen. Ecological studies of Polistes wasps, II.** (*Ins. Soc.*, **1**, 255-260). Observations on the usurpation of a colony of Polistes fedwigae D. T. by another fecundate queen of superindividual stage. Modes of attack for two colonies and the defense by the latters were described. Some considerations were given with respect to the difference btw. the observed phenomenon and socalled social or labour parasitism.

Way (M. J.), Synge (A. D.). — 1948. **The effects of D. D. T. and Benzene Hexachloride on bees.** (*Ann. appl. Biol.*, **35**, 94-109.)

Although it was demonstrated in the laboratory that D. D. T. in fairly high concentrations acts as a contact poison to bees and also as a stomach poison that is rather more toxic than lead arsenate, it was found that in the field the commercial preparations of D. D. T. that were tested by application to open blossom are apparently harmless to foraging bees.

Laboratory experiments showed that Benzene Hexachloride is a powerful contact and stomach poison to honeybees and bumblebees, and the results of field experiments with commercial preparations confirm its potential danger to foraging bees.

Wykes (G. R.). — 1951. **Selection of certain nectars by honeybees.** (*Ann. Rep. Cent. Assoc. Brit. B. K. Assoc.*)

A discussion of various factors which affect the taste perception of honeybees and their selective nectar gathering behaviour when foraging.

Wykes (G. R.). — 1952. **An investigation of the sugars present in the nectar of flowers of various species.** (*New Phytol.*, **51**, 210-215.)

Quantitative determinations were made of nectar sugars by means of paper chromatography. In nectar obtained from 61 species sucrose, glucose and fructose were present in all but one sample. In addition, maltose and two other sugars of low RF values were found in the nectar of some species.

Wykes (G. R.). — 1952. **The influence of variations in the supply of carbohydrate on the process of nectar secretion.** (*New phytol.*, **51** (3), 294-300..)

The supply of carbohydrate available to nectar-secreting flowers was varied by different treatments and the influence of such variations on the amount and sugar concentration of nectar secreted was determined. Application of ringing and defoliating treatments to flowering shoots showed that the supply of carbohydrate may become a limiting factor for nectar secretion. In a series of sugar-feeding experiments it was found that the concentration of nectar and the amount of sugar secreted varied directly with the sugar concentration of the feeding solution, whereas the weight of nectar did not. Differences in the kinds of sugars supplied did not appear to influence nectar content.

Wykes (G. R.). — 1952. **The preferences of honeybees for solutions of various sugars which occur in nectar.** (*J. exp. Biol.*, **29** (4), 511-518.)

When bees were offered equal volumes of sugar solutions, of different composition but the same total concentration, in laboratory and field experiments, it was found that sugars which occur in nectar are not equally attractive to them. Consistent preferences were shown for solutions of single sugars in the following descending order; sucrose, glucose, maltose, fructose. The acceptances of some mixtures differed from those predicted on the basis of an additive effect of the constituent sugars in

single solution. High preferences were shown for the sucrose-glucose-fructose solutions.

No direct relationship appears to exist between the chemical constitution of the sugars offered and their acceptance by bees, and no adequate explanation can be offered for the observed differences in preferences for solutions of either single or mixed sugars.

The possible biological significance of such selective responses by bees is discussed.

WYKES (G. R.). — 1953. **The sugar content of nectars.** (*Biochem. J.*, **53**, 294-296.)

The sugars present in nectar secreted by twelve species of plants were separated on paper chromatograms, and quantitative determinations were made of the glucose and fructose present. It was found that the proportions of glucose and fructose varied greatly in nectar from the different species, but, for any one species, the proportions of these sugars appeared to remain relatively constant.

**Studies in Pharaoh's ant, Monomorium Pharaonis** (L.)

1949. PEACOCK (A. D.), BAXTER (A. T.). — **The Rearing of Artificial colonies.** (*Ent. mon. Mag.*, **85**, 256-260.)
1950. PEACOCK (A. D.). — **Methods of Recording Observations on Artificial Colonies.** (*Ibid.*, **86**, 129-135.)
1950. PEACOCK (A. D.), BAXTER (A. T.). — **Life History.** (*Ibid.*, **86**, 171-178.)
1950. PEACOCK (A. D.). — **Egg-Production.** (*Ibid.*, **86**, 294-298.)
1951. PEACOCK (A. D.). — **Pupal and Adult Sex Ratios.** (*Ibid.*, **87**, 185-191.)
1951. HALL (D. W.), SMITH (I. C.). — **External Characters, Size variation and Cephalic Ratios.** (*Ibid.*, **87**, 217-221.)
1952. HALL (D. W.), SMITH (I. C.). — **Thoracic Structures, Typical and Atypical.** (*Ibid.*, **88**, 97-102.)
1954. PEACOCK (A. D.), SMITH (I. C.), HALL (D. W.), BAXTER (A. T.). — **Male production by Parthenogenesis.** (*Ibid.*, **90**, 154-158.)
1954. HALL (D. W.), SMITH (I. C.). — **Somatic Mosaics.** (*Ibid.*, **90**, 176-182.)
1955. PEACOCK (A. D.), WATERHOUSE (F. L.), BAXTER (A. T.). — **Viability in regard to Temperature and Humidity.** (*Ibid.*, **91**, 37-42.)
1955. PEACOCK (A. D.), SUDD (J. H.), BAXTER (A. T.). — **Colony Foundation.** (*Ibid.*, **91**, 125-129.)|
1955. PEACOCK (A. D.), SUDD (J. H.), BAXTER (A. T.). — **Dissemination.** (*Ibid.*, **91**, 130-133.)
1950. PEACOCK (A. D.), HALL (D. W.), SMITH (I. C.), GOODFELLOW (A.). — **The Biology and Control of the Ant Pest** *Monomorium pharaonis* (L.). (*Dept. Agric. Misc. Pub.*, **17**.)
1950. PEACOCK (A. D.). — **Pharaoh's Ant, A Pest of Hospitals and Other Premises.** (*Dept. of Health for Scotland "Health Bulletin"*, vol. **8**, n° 4.)
1953. HALL (D. W.), SMITH (I. C.). — **Atypical Forms of the Wingless Worker Female in** *Monomorium pharaonis* (L.) (**Hymenoptera:Formicidae**). (*Evolution*, 7, n° 2.)

*Published in France.* *Le Gérant:* GEORGES MASSON.

Dépôt légal 1957 - 1er trimestre - N° d'ordre : 2623 - MASSON et Cie, éditeurs, Paris.

Imprimé par l'Imp. Crété Paris, Corbeil-Essonnes, France.
Dépôt légal 1957 - 1er trimestre - N° d'ordre 8032.