TRIBOLIUM INFORMATION BULLETIN

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EDITOR: ALEXANDER SOKOLOFF

PROFESSOR EMERITUS

BIOLOGY DEPARTMENT

CALIFORNIA STATE UNIVERSITY

SAN BERNARDINO, CA 92407

TELEPHONE (909) 880-5305, EXT 5407

BIBLIOGRAPHY

NOTE: THESE REFERENCES ARE FOR TRIBOLIUM FOR THE YEARS 1986-1995. THEY HAVE BEEN ARRANGED ACCORDING TO SUBJECT TO CONFORM WITH THE FORMAT EMPLOYED IN THE TIB SINCE ITS INCEPTION IN 1958. FOR ADDRESSES OF THE SENIOR AUTHOR OF THE PAPER, SEE THE PERSONAL DIRECTORY FOLLOWING THE REFERENCES. THE EDITOR HOPES THIS COMPILATION AND ITS FORMAT WILL BE USEFUL TO THE SUBSCRIBERS OF TIB. SUGGESTIONS FOR IMPROVEMENT ARE WELCOME.

A. SOKOLOFF

BIBLIOGRAPHY - TRIBOLIUM

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1. ANATOMY, HISTOLOGY AND MORPHOLOGY

BIBLIOGRAPHY - TRIBOLIUM

2. BEHAVIOR

CLAVIER, H. 1994. On Enoplopus dentipes Rossi in Var. (Col. Tenebrionidae). Entomologiste (Paris) 50:349.

HANRAHAN, S.A. 1994. Acoustic orientation and communication in desert tenebrionid beetles in sand dunes. Ethology. 97:26-32.

HO, S.H., LEONG, E.C.W. and LAU, W.Y. 1993. Attractancy of crude pandan (Pandanus amaryllifolium Roxb.) extracts to Tribolium castaneum (Herbst). International Pest Control 35:44-45.

LUTTERSCHMIDT, W.I., MARVIN G.A. and Hutchison, V.H. 1994. Alarm response by a plethodontid salamander (Desmognathus ochropheus): Conspecific and heterospecific "schreckstoff". J. Chem. Ecology 20:2751-2759.

THRONE, J.E. and CLINE, L.D. 1994. Seasonal flight activity and seasonal abundance of selected stored-product Coleoptera around grain storages in South Carolina. J. Agric. Entomol. 11:321-338.

VIA, S. 1991. Variation between strains of the flour beetle Tribolium castaneum in relative performance on five flours. Entomol. Exp. Appl. 60:173-182.

YAN, G., STEVENS, L. and SCHALL, J.J. 1994. Behavioral changes in Tribolium beetles infected with a tapeworm: variation in effects between beetle species and among genetic strains. Am. Nat. 143:830-847.

BIBLIOGRAPHY - TRIBOLIUM

3. CYTOLOGY and ELECTRON MICROSCOPY

JUAN, C., VAZQUEZ, P., RUBIO, J.M., PETITPIERRE, E. and HEWITT, G.M. 1993. presence of highly repetitive DNA sequences in Tribolium flour beetles. Heredity 70:1-8.

BIBLIOGRAPHY - TRIBOLIUM

4. INSECT TISSUE CULTURE and EMBRYOLOGY

QUENNEDEY, A., ARIBI, N., EVERAERTS, C. and DELBECQUE, J.P. 1995. Postembryonic development of Zophobas atratus Fab. (Coleoptera: Tenebrionidae) under crowded or isolated conditions and effects of juvenile hormone analogue applications. J. Insect Physiology 41:143-152.

KUUSIK, A., TARTES, U., HARAK, M., HIIESAAR, K. and METSPALU, L. 1994. Developmental changes during metamorphosis in Tenebrio molitor (Coleoptera: Tenebrionidae) studied by calorimetric thermography. European J. Entomology 91: 292-303.

5. ECOLOGY AND POPULATION BIOLOGY

ANIOKE, S.C. and EKE, B.N. 1992. Studies on the incidence and population dynamics of Lasioderma serricorne Fabricius and Tribolium castaneum (Herbst) on sweet potato Ipomea batatas (L. La M. flour. 24: 177-179.

AUDAS, A., HOGAN, G.R. and RAZNIAK, H. 1995. Incubation temperature as a modifying factor on survival of Tenebrio molitor reared in selenium-containing media. J. Toxicol and Environmental Health 44:115-122.

BROWER, J.H. and PRESS, J.W. 1992. Suppression of residual populations of stored-product pests in empty corn bins by releasing the predator Xylocoris flavipes (Reuter). Biol. Control 2: 66-72.

CHANG, N.W. and WADE, M.J. 1994. The transfer of Wohlbachia pipientis and reproductive incompatibility between infected and uninfected strains of the flour beetle, Tribolium confusum by microinjection. Can. J. Microbiol. 40:978-981.

CLAVIER, H. 1994. On Enoplopus dentipes Rossi in Var (Col. Tenebrionidae). Entomologiste (Paris) 50:349.

COLOMBINI, I., CHELAZZI, L., FALLACI, M. and PAIESSE, L. 1994. zonation and surface activity of some Tenebrionid beetles living on a mediterranean sandy beach. J. Arid Environments 28:215-230.+

CRAIG, D.M. and MERTZ, D.B. 1994. Inbreeding effects on competition in Tribolium. Researches in Population Ecol. 36:251-254.

EL-SHERIF, H.K., ALTHAHTAWY, M.M. and ALMEZGAGI, M.G. 1989. fungi associated with larval and adult stages of some dominant stored products insects. Alexandria J. Agric. Res. 34:203-213.

FALLACI, M., COLOMBINI, I., and CHELAZZI, L. 1994. An analysis of the Coleoptera living along a tyrrhenian beach-dune system. Abundances, zonation and ecological indices. Vie et milieu 44:243-256.

HAQUE, M.M. and KHAN, M.A.R. 1993. Growth and development of Triboliium anaphe Hinton (Coleoptera: Tenebrionidae) on cereal flours and their mixtures. Bangladesh J. of Zoology 21:93-98.

IRSHAD, M. and TALPUR, S. 1993. Interaction among three coexisting species of stored grain insect pests. Pakistan J. Zool. 25: 131-133.

JAMES, D.G. 1994. Prey consumption by Pristhesancus plagipennis Walker (Hemiptera: Reduviidae) during development. Australian Entomologist 21:43-48.

BIBLIOGRAPHY - TRIBOLIUM

KHALEQUZZAMAN, M., KHATUN, M. and TALUKDAR, O. 1994. Growth of Tribolium confusum Duv. on wheat flour with various yeast levels. International Pest Control 5:128-130.

KOTAKI, T and FUJII, H. 1995. Crowding inhibits pupation in Tribolium freemani: Contact chemical and mechanical stimulation are involved. Entomol. experimentalis et applicata 74:145-149.

MIETKIEWSKI, R., ZUREK, M. and VAN derGEEST, L.P.S. 1993. Effect of soil temperature on the mortality of Tribolium destructor larvae caused by the fungus Metarhizum anisopliae. Roczniki Nauk Rolniczych, Seria E, Ochrona Roslin 22:31-37.

MURPHY, P.W., SARDAR, M.A., SCHUSTER, R. and MURPHY, P.W. 1991 Resource allocation and utilization contrasts with emphasis on food source. The Acari. Reproduction, Development and Life-history strategies. 1991, 301-311.

O'NEILL, S.L., GIORDANO, R., COLBERT, A.M.E., KARR, T.L. and ROBERTSON, H.M. 1992. 16S rRNA phylogenetic analysis of the bacterial endosymbionts associated with cytoplasmic incompatibility in insects. PNAS 89: 2699-2702.

PODAR, T.K. 1994. Population ecology of littoral tenebrionids (Insecta: Colaeoptera) from Hooghly estuary. Proc. Zool. Soc.a Calcutta 47:47-51.

RASA, O.A.E. 1995. Ecological factors influencing burrow location, group size and mortality in a nocturnal fossorial Kalahari detritivore, Parastizopus armaticeps Peringuey (Coleoptera: Tenebrionidae). J. of Arid Environments 29:353-365.

RIVERA-CERVANTES, L.E. and MORON, M.A. 1992 (1994). The Coleoptera community associated with rotten logs in a cloud forest of Sierra de Manantlan, Jalisco, Mexico.A Folia Entomologica Mexicana 0(85):65-76.

SINGH, R., SINGH, S., SINGH, K. and GOEL, S.C. 1992. Biology of Tribolium castaneum (Herbst) in different flours (Coleoptera: Tenebrionidae). 1992 Bioecology and control of insects pests: Proceedings of the National Symposium on Growth, Development and Control Technology of Insects Pests. 60-64.

STEVENS, L. and WADE, M.J. 1990. Cytoplasmically inherited reproductive incompatibility in Tribolium bettles: the rate of spread and effect on population size. Genetics 124: 367-372.

THRONE, J.E. and CLINE, L.D. 1994. Seasonal flight activity and seasonal abundance of selected stored-product Coleoptera around storages in South Carolina. J. Agric. Entomol. 11:321-338.

TORRES-CONTRERAS, H., SILVA-ARANGUIZ, E. and JAKSIC, F.M. 1994. Diet and selectivity of Speotyto cunicularia in a semi-arid

locality of northern Chile throughout seven years (1987-1993). Revista Chilena de Historia Natural 67:329-340.

WARCHALEWSKI, J.R., NAWROT, J. and KLOCKIEWICZ-KAMINSKA, E. 1993. The growth of laboratory populations of some stored-product insects in nine wheat grain varieties. Rocznicki Nauk Rolnicza, Seria E, Ochrona Roslin 22:31-37.

BIBLIOGRAPHY - TRIBOLIUM

6. GENERAL

AHMED, M., SHAUKAT, S.S. AHMED, A. and SHAHID-SHAUKAT, S. 1992. A comparison of quality characteristics of Pakistan wheat with the existing FAO specifications: a proposal for a new grading system. Tropical Science 32:11-20.

EL-MOFTY, M.M., SAKR, S.A., OSMAN, S.I., TOULAN, B.A. and EL-MOFTY, M.M. 1989. Oncology 46:63-65.

MBATA, G.N. 1992. The use of resistant crop varieties in the control of storage insects in the tropics and subtropics. 1992. Ambio 21:475-478.

BIBLIOGRAPHY - TRIBOLIUM

7. GENETICS

ANDREEV, D., ROCHELEAU, T., PHILLIPS, T.W., BEEMAN, R.W., and FRENCH-CONSTANT, R.H. 1994. A PCR diagnostic for cyclodiene resistance in the red flour beetle Tribolium castaneum. Pesticide Sci. 41:345-349.

BROWN, S.J., HILGENFELD, R.B. and DENELL, R.E. 1994. The beetle Tribolium castaneum has a fushi tarazu homolog expressed in stripes during segmentation. PNAS 91:12922-12926.

BROWN, S.J., PATEL, N.H. and DENELL, R.E. 1994. Embryonic expression of the single Tribolium engrailed homolog. Dev. Genetics 15:7-18.

CAMPO, J.L. and COBOS, P. 1994. Efficiency of selection methods for increased ratio of pupal-larval to adult-larval weight gains in Tribolium.

CAMPO, J.L. and GIL, M.G. 1994. The effects of assortative mating on the genetic change due to linear index selection in Tribolium. J. Animal Breeding and Genetics 111:213-219

CASTRO, L., TORO, M.A. and LOPEZ-FANJUL, C. 1994. THe genetic properties of homosexual copulation behavior in Tribolium castaneum: artificial selection. Genetics, Selection and Evolution 26:361-367.

CONNER, J. and VIA, S. 1992. Natural selection on body size in Tribolium: possible genetic constraints on adaptive evolution. Heredity 69:73-83.

CENIS, J.L. and BEITIA, F. 1994. Application of the technique RAPD-PCR (random amplified polymorphic DNA) to the identification of insects. Investigacion Agraria produccion y Proteccion Vegetales 9:289-297.

COSTANTINO, R.F. and DESHARNAIS, R.A. 1991. Population dynamics and the Tribolium model: genetics and demography. Monographs on theoretical and applied genetics: 13.

FRENCH, V. 1993. The long and the short of it. Nature (London) 361:400-411.

GARCIA-CASADO, G., SANCHEZ-MONGE, R., LOPEZ-OTIN, C. and Salcedo, G. 1994. Rye chromosome arm 3RS encodes a homodimeric inhibitor of insect alpha-amylase. Theoret. and Appl. Genetics 89:60-63.

GARCIA, C. and TORO, M.A. 1993. Larval competition and genetic diversity in Tribolium castaneum. Genetics, Selection and Evolution 25: 31-40.

HURST, L.D. 1993. scat+ is a selfish gene analogous to Medea of Tribolium castaneum. Cell 75: 407-408.

KISFERT, A., HERRMANN, B.G., LEPTIN, M. and REUTER, R. 1994. homologs of the mouse Brachyury gene are involved in the specification of posterior terminal structures in Drosophila, Tribolium and Locusta. Genes and Development 8:2137-2150

LI, M.D. and ENFIELD, F.D. 1992. A computer simulation evaluation of the role of mutations in finite populations on the response to directional selection: The generations required to attain maximum genetic variance. Theoret. Appl. Genet. 84:995-1001.

MELOAN, C.E., WANG, V.S., SCRIVEN, R. and KUO, C.K. 1988. Testing Wright's theory of olfaction with deuterated compounds. Dev, Food Sci. 17:29-48.

NAGY, L.M. 1994. Insect segmentation: A glance posterior. Current Biol. 4:811-814.

NAGY, L.M. and Carroll. 1994. Conservation of wingless patterning functions in the short term embryos of Tribolium castaneum. Nature (London). 367:460-463.

NOMURA, T. and YAMANAMI, J. 1995. Effects of inbreeding avoidance on response to selection: studies by computer simulation and a selection experiment with Tribolium. Animal Science and Technol. 66:134-141.

PATEL, N.H. 1994. Developmental evolution: insights from studies of insect segmentation. Science 266:581-590.

PATEL, N.H., CONDRON, B.G. and ZINN, K. Pair-rule expression patterns of even-skipped are found in both short- and long-germ beetles. Nature (London) 367:429-434.

PLOHL, M. and UGARKOVIC, D. 1994. Characterization of two abundant satellite DNAS from the mealworm Tenebrio obscurus. J. molecular Evol. 39:489-495.

PLOHL, M., JUCIJANIC-JUSTIC, V., UGARKOVIC, D., PETITPIAERRE, E., and JUAN, C. 1993. Satellite DNA and heterochromatin of the flour beetle Tribolium confusum. Genome 36:467-475.

ROBINSON, T., JOHNSON, N.A. and WADE, M.J. 1994. Postcopulatory prezygotic isolation: intraspecific and interspecific sperm precedence in Tribolium spp., flour beetles. Heredity 73:155-159.

SALAMA, H.S., ALI,HARABY, A. 1993. The induction of Bacillus thuringiensis new types by foreign DNA. J. Applied Entomol. 115:350-354.

BIBLIOGRAPHY - TRIBOLIUM

SOMMER, R.J. and TAUTZ, D. 1994. Expression patterns of twist and snail in Tribolium (Coleoptera) suggest a homologous formation in long and short germ band insects. Dev. Genetics 15:32-37.

SOMMER, R.J. and TAUTZ, D. 1993. Involvement of an orthologue of the Drosophila pair-rule gene hairy in segment formation of the short germ band embryo of Tribolium (Coleoptera). Nature 361: 448-450.

TAUTZ, D. and SOMMER, R.J. 1995. Evolution of segmentation genes in insects. Trends in Genetics 11:23-27.

THOMSON, M.S., FRIESEN, K.S., DENELL, R.E. and BEEMAN, R.W. 1995. A hybrid incompatibility factor in Tribolium castaneum. J. Heredity 86:6-11.

VERMA, S.B., SINGH, R.L. and SINGH, S.K. 1994. Divergent selection for egg number in Tribolium castaneum: parameters in the base population. Indian J. of Animal Sci. 64:647-650.

VERMA, S.B., SINGH, R.L. and SINGH, S.K. 1994. Divergent selection for egg number in Tribolium castaneum. 2. Correlated responses in hatchability, pupation time and adult emergence time. Indian J. Animal Sci. 63:1079-1084.

VIA, S. 1991. Variation between strains of the flour beetle Tribolium castaneum in relative pe rformance on five flours. Entomol. Exp. Appl. 60:173-182.

VIA, S. and CONNER, J. 1995. Evolution of heterogeneous environments: Genetic variability within and across different grains in Tribolium castaneum. Heredity 74:80-90.

WADE, M.J. 1991. Genetic variance for rate of population increase in natural populations of flour beetles, Tribolium spp. Evolution 45:1574-1584.

WADE, M.J. And GOODNIGHT, C.J. 1991. Wright's shifting balance theory: an experimental study. Science 253:1015-10189

WADE, M.J. and BEEMAN, R.W. 1994. The population dynamics of maternal-effect selfish genes. Genetics 138:1309-1314.

WADE, M.J., JOHNSON, N.A. and WARDLE, G. 1994. Analysis of autosomal polygenic variation for expression of Haldane's rule in flour beetles. Genetics 138: 791-799.

8. INSECTICIDES, ANTIFEEDANTS, REPELLENTS, and INSECTICIDE RESISTANCE

AKHTAR, N., and MONDAL, K.A.M.S.H. 1994. Effect of caffeine and castor oil on fecundity and fertility of Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae). Pakistan J. Zoology 26:179-181.

ANDREEV, D., ROCHELEAU, T. PHILLIPS., T. W., BEEMAN, R.W., and FFRENCH-CONSTANT, R.H. 1994. A PCR diagnostic for cyclodiene insecticide resistance in the red flour beetle Tribolium castaneum. Pestic. Sci 41:345-348.

ARTHUR, F.H. 1994, Feasibility of using aeration to control insect pests of corn stored in southeast Georgia: simulated field test. J. econ. Entomol. 87:1359-1365.

ARTHUR, F.H. 1994. Residual efficacy of cyfluthrin applied alone or in combination with piperonyl butoxide or piperonyl butoxide + chorpyrifos-methyl as protectants of stored corn. J. Entomol. Sci. 29:276-287.

ARTHUR, F.H. 1994. Efficacy of unsynergized deltamethrin and deltamethrin + chlorpyrifos-methyl combinations as protectants of stored wheat and stored corn (maize). J. stored Prod. Res. 30:87-94.

ARTHUR, F.H. 1994. Residual efficacy of cyfluthrin emulsifiable concentrate and wettable powder formulations on porous concrete and on concrete sealed with commercial products prior to insecticide application. J. stored Prod. Res. 30:79-86.

ARTHUR, F.H. 1994. Efficacy of Cyfluthrin, Cyfluthrin + Piperonyl Butoxide, and Cyfluthrin + Piperonyl Butoxide + Chlorpyrifos-Methyl as Protectants of Stored Peanuts. Peanut Sci. 21:44-48.

ARTHUR, F.H. 1995. Efficacy of three insecticides to control insect pests of stored seed corn. J. Agric. Entomol. 12:45-53.

ARTHUR, F.H. and BROWN, S.L. 1994. Evaluation of diatomaceous earth (insecto) and Bacillus thuringiensis formulations for insect control in stored peanuts. J. entomol. Sci. 29:176-182.

ARTHUR, F.H. and THRONE, J.E. 1994. Pirimiphos-methyl degradation and insect population growth in aerated and unaerated corn stored in southeast Georgia: small bin tests. J. Econ. Ent. 87:810-816.

BAKER, J.E. and ARBOGAST, R.T. 1995. Malathion resistance in field strains of the warehouse pirate bug (Heteroptera:

Anthocoridae) and a prey species Tribolium castaneum (Coleoptera: Tenebrionidae). J. econ. Entomol. 88:241-245.

BUCHI, R. 1993. Inquiry on the incidence of pests and the use of insecticides in granaries, feed stocks and mills. Landwirtschaft Schweiz. 6:10-12.

BUSCARLET, L.A. 1993. Study on the influence of temperature on the mortality of Tribolium confusum J. du Val exposed to carbonic dioxide or nitrogen. Zeitschr. fur Naturforschung. Section C. Biosciences 48:590-594.

CHAGOLLA-LOPEZ, A., BLANCO-LABRA, A. PATTHY, A., SANCHEZ, R. and Pongor, s. 1994. A novel alpha-amylase inhibitor from amaranth (Amaranthus hypochondriacus) seeds. J. Biol. Chem. 269-23675-23680.

CHAKANYUKA, K.M. and GIGA, D.P. 1986. Evaluation of four chemical protectants against some pests of stored grain in Zimbabwe. Zimbabwe J. Agric. Res. 24:173-180.

CHANDER, H., KULKARNI, S.G. and BERRY, S.K. 1991. Anti-microbial food additivees as protectants for milled rice against Sitophilus oryzae and Tribolium castaneum in storage. Annals of Biol. Ludhiana 2:125-135.

CHAVEZ, G., NUNEZ, F. and CALLE, J. 1992 1994). Assessment of the insecticidal action of rapanone on Tribolium castaneum (Herbst). Acta Biologica Colombiana 7:139-148.

COHEN, E., and CASIDA, J.E. 1990. Insect and fungal chitin synthetase activity: specificity of lectins as enhancers and nucleoside peptides as inhibitors. Pestic. Biochem. Physiol. 37:249-253.

CLABORN, D.J., TETRAULT, G.E. and ARTHUR, F.H. 1991. Effectiveness of three residual insecticide formulations to control red flour beetles (Coleoptera: Tenebrionidae) on painted and unpainted steel. J. Entomol. Sci. 1991: 26:395-400.

COUSTAU, C., and FFRENCH-CONSTANT, R. 1995. Detection of cyclo-diene insecticide resistance-associated mutations by single-stranded conformational polymorphic analysis. Pesticide Sci. 43:267-271.

DAGLISH, G.J., ZORZETTO, M.J., LAMBKIN, T.M., ERBACHER, J.M. and EELKEMA, M. 1992. Control of Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae) in stored peanuts using residual insecticides. J. stored Prod. Res. 28:157-160.

DANIEWSKI, W.M., GUMULKA, M., PTASZYNSKA, K., SKIBICKI, P. BLOSZYK, E., DROZDZ, B., STROMBERG, S., NORIN, T. and HOLUB,

H. 1993. Antifeedant activity of some sesquiterpenoids of the genus Lactarius (Agaricus: Russulaceae) European J. Entomol. 90:65-70.

DEKKER, MARCEL. 1992. Tentative guidelines for testing the bioavailability and toxicology potential of grain-bound pesticide residues. J. Environ. Sci. Health. Part B. Pestic. Food Contam. Agric. Wastes. v. 27:427-431.

DUGUET, J.S. and QUAN, L. 1990. Evaluation of the effectiveness of deltamethrin spray or dust on rice husks against stored products pests on stored rice in southern China. Agronomie Tropicale 45:107-113.

ELEGAMI, A.A.B., ISHAG, K.E., MAHMOUD. E.N., ALFUTUH, I.M.A. and KARIM, E.I.A. 1994. Insecticidal activity of Pulicaria undulata oil. Fitoterapia 65:82-83.

HARMATHA,, J., NAWROT, J., VOCAC, K., OPLETAL, L., SOVOVA, M. 1992. Insect antifeeding activity of some cardenolides, coumarins and 3-nitropropionates of glucose from Coronilla varia. Ser. Entomol. 49: 155-156.

HIRASHIMA, A., NAGANO, T., and ETO, M. 1994. Effect of various insecticides on the larval growth and biogenic amine levels of Tribolium castaneum (Herbst). Comp. Biochem. and Physiol. -C, Pharmacol. Toxicol. and Endocrinol. 107:393-398.

HO, S.H., CHENG, L.P.L., and TAN, H.T.W. 1994. Potential of cloves ((Syzygium aromaticum L.)). Merr. and Perry as a grain protectant against Tribolium castaneum (Herbst) and Sitophilus zeamais Motsch. Postharvest Biol. and Technol. 4:179-183.

HO, S.H., CHENG, L.P.L., SIM, K.Y. and TAN, H.T.W. 1994. Potential of cloves (Syzygium aromaticum (L.)) Merr. and Perry as a grain protectant against Tribolium castaneum (Herbst) and Sitophilus-zeamais Motsch. Postharvest Biol. Technol.4:179-183.

HUSAIN, M., MONDAL, K.A.M.S.H., ALI, S.H. and RAHIM, A. 1991. Repellent effect of Nogos to adult Tribolium castaneum (Herbst). Pakistan J. Scientific and Industrial Res. 34:32-33.

KELLY, M.P. and AMOS, K.M. 1993. The control of insect in export grain by admixture chemicals. Cereal Quality III, a conference of the Assn. Appl. Biologists held 13-15 December 1993, Churchill College Cambridge, UK. Aspects of Applied Biology 1993, No. 36, 471-476.

KHANAM, L.A.M. and TALUKDER, D. 1993. Effect of bishkatali, Polygonum hydropiper L. leaf and royna, Aphamixis

polystachya Wall. (Parker) seed coat extract on the fecundity and fertility of Tribolium confusum Duval (Coleoptera: Tenebrionidae). Bangladesh J. Scientif. Res. 28:49-55.

KRISHNAMURTHY, T.S., MURALIDHARAN, N. and KRISHNAKUMARI, M.K. Disinfesting food commodities in small storages using carbon dioxide rich atmospheres. INTERNAT'L PEST CONTROL 35:153-156.

LEESCH, J.G. 1995. Fumigant action of acrolein on stored-product insects. J. econ. Entomol. 88:326-330.

LEESCH, J.G., REICHMUTH, C., WOHLGEMUTH, R., DAVIS, R. and REDLINGER, L.M. 1994. The in-transit shipboard fumigation of soybeans with phosphine probed 2-3meters deep. Zeitschr. fur Pflanzenkrankheiten und Pflanzenschutz 101:534-544.

MATTHEWS, W.A. 1992 The biological activity of bound residues of 14C chlorpyrifos-methyl and 14 C-malathion on treated wheat in a stored product insect. J. Environ. Health. Part B. Pestic. Food Contam. Agric. Wastes. Marcel Dekker 27:419-426.

MCFARLANE, J.A., GUDRUPS, I. and FLETCHER, H. 1993. Biotype differences affecting the pest status of stored grain insects. Int. J. Pest Manag. 39:35-43.

MEHTA, V.K., YADAV T.D., GARG, A.K. and SETHI, G.R. 1991. Toxicity of four fumigants to different developmental stages of Tribolium castaneum (Herbst) and Trogoderma granarium Everts. Indian J. Entomol. 53:503-510.

MONDAL, K.A.M.S.H. 1990. Combined action of synthetic methylquinone, aggregation pheromone and pirimiphos-methyl on Tribolium castaneum larval mortality. Pakistan J. Zool. 22:249-255.

MONDAL, K.A.M.S.H. 1990 (1993). Effect of sunthetic quinone and pheromone on Tribolium castaneum. Annals Entomol. 8:19-21.

MUELLER, O.K. 1994. Phosphine, heat and carbon dioxide deliver death punch to insects. Pest Control 62: 3, 42, 44, 46, 48.

MVUMI, B.M. and GIVA, D.P. 1994. Residual effectiveness of pirimiphos-methyl on maize in small farm stores. Postharvest Biol. and Technol. 4:353-360.

PARK, N.J., SONG, C., KIM,, G.H. and CHO, K.Y. 1994. The evaluating method of the insecticidal activity of three chitin synthesis inhibitors against the yellow mealworm,

Tenebrio molitor Linnaeus. Korean J. Appl. Entomol. 33:281-285.

PASTER, N., CALDERON, M., MENASHEROV, M., BARAK, V. and MORA, M. 1991. Application of biogenerated modified atmospheres for insect control in small grain bins. Trop. Sci. 31:355-358.

PERMUAL, D. and LE PATOUREL, G. 1992. Small bin trials to determine the effectiveness of acid-activated kaolin against four species of beetles infesting paddy under tropical storage conditions. J. stored Prod. Res. 28: 193-199.

PICOLLO DE VILLAR, M., FERRERO, A., SECCACINI, E. and ZERBA, E. 1992. Insecticide toxicity profile in malathion susceptible and resistant strains of Tribolium castaneum Coleoptera: Tenebrionidae). Revista Soc. Entomol. Argentina. 51:71-78.

PIKE, V. 1994. Laboratory assessment of the efficacy of phosphine and methyl bromide fumigation against all life stages of Liposcelis entomophilus (Enderlein). Crop Protection 13:141-145.

RAJAMMA, P., MCFARLANE, J.A. and POULTER, N.,H. 1994. Susceptibility of Rhyzopertha dominica (F.) (Coleoptera: Bostrichidae) and Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae), Tropical Science 34:315-320.

RAJENDRAN, S. 1994. Responses of phosphine- resistant strains of two stored-product insect pests to changing concentrations of phosphine. Pesticide Sci. 40: 183-186.

RICE, P. and COATS, J.R. 1994. Insecticidal properties of several monoterpenoids to the house fly (Diptera: Muscidae), red flour beetle (Coleoptera: Tenebrionidae), and southern corn root worm (Coleoptera: Chrysomelidae). J. Econ. Entomol. 87:1172-1179.

ROSLAVTSEVA, S.A. 1994. Present-day concepts of biochemical mechanisms of resistance. Agrokhimiya 0(10):143-148.

SALEEM, M.A. and SHAKOOR, A.M. 1990. The toxicity of eight insecticides to sixth instar larvae and adult beetles of Tribolium castaneum (Herbst). Pakistan J. Zool. 22:207-216.

SECK, D., LOGNAY, G., HAUBRUGE, E., WATHELET, J.P.,MARLIER, M., GASPAR, C. and SEVERIN, M. 1993. Biological activity of the shrub Boscia senegalensis (PERS) LAM. ex Poir. (Capparaceae) on stored grain insects. J. Chem. Ecol. 19:377-389.

SHAAYA, E., RAVID, U., PASTER, N., KOSTJUKOVSKY, M., MENASHEROV, M., PLOTKIN, S. 1993. Essential oils and their components as active fumigants against several species of stored product insects and fungi. Acta hortic. Wageningen: Internationational Soc. for Horticultural Science. Nov. 1993 (344) p. 131.

SHAKOORI, A.R. and BHATTI, N.G. 1994. Effect of Trebon (ethofenprox) on the carbohydrate utilization by adult beetles of an organophosphorous insecticide-susceptible (FSS-II) and malathion-resistant (PAK) strains of Tribolium castaneum (Herbst). (Coleoptera: Tenebrionidae). Bangladesh J. of Zool. 22:33-41.

SHAKOORI, A.R., TUFAIL, N. and SALEEM, M.A. 1994. Response of malathion-resistant and susceptible strains of Tribolium castaneum (Herbst) to bifenthrin toxicity. Pakistan J. Zool. 26:169-178.

SHRIVASTAVA, A.P. 1991. Evaluation and assessment of newly reported insecticides for control insect pests of stored products. Entomol. for Defence Services. 1991:219-225.

SHRIVASTAVA, A.P., NARAIN, K. aand BHANDARI, P.D. 1991. Evaluation aand assessment of newly reported insecticides for control of insect pests of stored products.

SINHA, K.K. and SINHA, A.K. 1992. Impact of stored grain pests on seed deterioration and aflatoxin contamination in maize. J. stored Prod. Res. 28:211-219.

SODERSTROM, E.L., BRANDL, D.G. and MACKEY, B. 1992. High temperature combined with carbon dioxide enriched or reduced oxygen atmospheres for control of Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae). J. stored Products Res. 28:235-238.

SOSA, M. E., TONN, C.E. and GIORDANO, 1994. Insect antifeedant activity of clerodane diterpenoids. J. Natural Products (Lloydia) 57:1262-1265.

SZAFRANEK,J., MALINSKI, E., DUBIS, E., HEBANOWSKA, E., NAWROT., J., OKSMAN, P. and PIHLAJA, K. 1994. Identification of branched alkanes in lipids of Leptinotarsa decemlineata Say and Tribolium destructor by GC-MS; A comparison of main-beam and link-scanned spectra. J. Chemical Ecol. 20:2197-2212.

SZAFRANSKI, F. BLOSZYK, E., and DROZDZ, B. 1991. Biological activity of some plant extracts from the Kisangani area, Zaire. Belg. J. Botany 124:60-70.

TALUKDER, F.A. and HOWSE, P.E. 1993. Deterrent and insecticidal effects of extracts of pithraj, Aphanimixis

polystachya (Meliaceae), against Tribolium castaneum in storage. J. Chem. Ecol. 19:2463-2471.

TALUKDER, F.A. and HOWSE, P.E. 1995. Evaluation of Aphanamixis polystachya as a source of repellents, antifeedants, toxicants and protectants in storage against Tribolium castaneum (Herbst). J. stored Prod. Res. 31:55-61.

THOMPSON, M. , STEICHEN, J.C. and FFRENCH-CONSTANT, R.H. 1993. Conservation of cyclodiene insecticide resistance-associated mutations in insects. Insect Molecular Biol. 2:149-154.

VINUELA, E., ONDRACEK, J., JACAS, J., ADAN, A., REJZEK, M. and WIMMER, Z. 1994. Laboratory evaluation of five new JHA derivatives from 2-(4-hydroxybenzyl)-1-cyclohexanone against Tribolium castaneum (Herbst). J. stored Prod. Res. 30:149-155.

WALI UR REHMAN. 1993. Trial of insecticides and a fumigant against forest seed pests. Pakistan J. Forestry 43:85-90.

WHITE, N.D.G. and JAYAS, D.S. 1991. Control of insects and mites with carbon dioxide in wheat stored at cool temperatures in nonairtight bins. J.econ. Entomol. 84:1933-1942.

WHITE, N.D.G., JAYAS, D.S. and SINHA, R.N. 1994. Impact of pirimiphos-methyl and cold temperatures on arthropod populations in stored wheat. Phytoprotection 75:79-90.

WILLIAMS, L.A.D. and MANSINGH, A. 1993. Pesticidal potentials of tropical plants. I. Insecticidal activity in leaf extract of sixty plants. Insect Sci. and its Application 14:697-700.

WILKINS, R.M., SALEEM, M.A. and RAJENDRAN, C. 1995. Synergism of insecticidal action and effects on detoxifying enzymes in vivo of lambda-cyhalothrin and malathion by some nitrogen heterocycles in resistant and susceptible strains of Tribolium castaneum. Pesticide Sci. 43:321-331.

WINTERSTEEN, W.K. and FOSTER, D.E. 1992. Degradation of malathion as a function of grain drying systems. J. econ. Entomol. 85:1015-1022.

WONTNER-SMITH, T.J., CHAKRABARTI, B. MILLS, K.A., BELL,C.H., LLEWELLIN, B. and MIAH, K. 1994. Development of techniques to increase the efficiency of methyl bromide fumigations. HGCA Proj. Rept. 101, 26pp.

XIONG, X.Z. and DENG, X.P. 1992. Repelling effects of extracts from Melia toosendan seed kernel on Tribolium castaneum Herbst. J. Southwest Agric. Univ. 14:298-298.

9. IRRADIATION AND USE OF ISOTOPES

10. NUTRITION

BAKER, J.E., WOO, S.M. and SILVERS, S.H. 1992. Observations on *in vitro* digestion of wheat starch granules by larvae of *Tribolium castaneum* (Coleoptera: Tenebrionidae). Ann. Entomol. Soc. Am. 85:612-615.

CHANDER, H., KULKARNI, S.G. and BERRY, S.K. 1991. Ability of the red flour beetle, *Tribolium castaneum* to feed and breed in whole and ground spices. Indian Cocoa, Arecanut and Spices J. 14:114-116.

DESPINS, J.L. and AXTELL, R.C. 1995. Feeding behavior and growth of broiler chicks fed larvae of the darkling beetle *Alphitobius diaperinus*. Poultry Sci. 74:331-336.

DRINKWATER, T.W. 1994. Rearing the false wireworm *Somaticus terricola* (Fahraeus) (Coleoptera: Tenebrionidae) on an artificial diet. African Entomol. 2:74-76.

HAQUE, M.M. and KHAN, M.A.R. 1993. Growth and development of *Tribolium anaphe* Hinton (Coleoptera: Tenebrionidae) on cereal flours and their mixtures. Bangladesh J. Zool. 21:93-98.

IMURA, O. 1991. A comparative study of the feeding habits of *Tribolium freemani* Hinton and *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). Appl. Entomol. Zool.26:173-182.

KHALEQUZZAMAN, M., KHATUN, M. and TALUKDAR, D. 1994. Growth of *Tribolium confusum* Duv. on wheat flour with various yeast levels. Internatl. Pest Control 36:128-130.

KHAN, A.R. and HASAN, M. 1989. Oviposition of the confused flour beetle, *Tribolium confusum* Duval (Coleoptera: Tenebrionidae) on green gram and red gram flour. Agric. Sci. Digest Karnal 9:107-109.

KHATTAK, S.U., KHATTAK, M.N., ULLAH, F. and HUSSAIN, N. 1994. Evaluation of ten wheat cultivars flour against *Tribolium castaneum* (Herbst). Bangladesh J. Zool. 22:217-222.

LI, L. and ARBOGAST, R.T. 1991. The effect of grain breakage on fecundity, development, survival, and population increase in maize of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). J. stored Prod. Res. 27:87-94.

MURRAY, B.R. and DICKMAN, C.R. 1994. Food preferences of two species of Australian desert rodents. Wildlife Res. 21:647-655.

NANDI, N.N., KHAN, A.R. and MONDAL, K.A.M.S.H. 1990. Fecundity and fertility of Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae) reared on red lentil and a mixture of wholemeal-red lentil flours. Bangladesh J. Zool.18:263-265.

SHIVHARE, U.S. and KOK, R. 1989. Development of a deep-bed reactor for production of insects (T. confusum) as human food. Pap. Amer. Soc. Agric. Eng. 89-6089. 13p.

SUBRAMANYAM, B., WRIGHT, V.F. and FLEMING, E.E. 1992. Laboratory evaluation of food baits for their relative ability to retain three species of stored-product beetles (Coleoptera), J. Agric. Entomol. 9:117-127.

SVOBODA, J.A. and LUSBY, W.R. 1994. Variability of sterol utilization in stored-products insects. Experientia 50:72-74.

SALEEM, M.A. AND SHAKOORI, A.R. 1993. Starvation and refeeding in Tribolium castaneum (Herbst) II. Effects on some biochemical components of adult beetles. Pakistan J. Zool. 25:169-175.

11. PARASITES AND SYMBIONTS

ARMSTRONG, E. 1990. The effects of Microsporidia on the life cycle and development of the insect host. Proceedings and Abstracts, Vth International Colloquium on Invertebrate Pathology and Microbial Control, Adelaide, Australia, 20-24 August 1990. 1990, 523. Glen Osmond, Australia, Department of Entomology, University of Adelaide.

BASS, L.K. and ARMSTRONG, E. 1992. Nosema whitei: effects on oocyte development and maturation in Tribolium castaneum. J. Invert. Pathol. 59: 115-123.

CHANG, N.W. and WADE, M.J. 1994. The transfer of Wolbachia pipientis and reproductive incompatibility between infected and uninfected strains of the flour beetle, Tribolium confusum, by microinjection. Canad. J. Microbiol. 40:978-981.

DUNKEL, F.V. and IVIE, M.A. 1994. Xylocoris galactinus (Fieber) (Hemiptera: Anthocoridae) newly discovered in Montana stored grain. Pan-Pacific Entomol. 70:327-328.

EVANS, W.S., HARDY,, M.C., SINGH, R. MOODIE, G.E. and COTE, J.J. 1992. Effect of the rat tapeworm, Hymenolepis diminuta, on the coprophagic activity of its intermediate host, Tribolium confusum. Canad. J. Zool. 70:2311-2314.

FRENCH, R.A., TODD, K.S., MEEHAN, T.P. and ZACHARY, J.F. 1994. Parasitology and pathogenesis of Geopetitia aspiculata (Nematoda: Spirurida) in zebra finches (Taeniopygia guttata): Experimental infection and new host records. J. of Zoo and Wildlife Medicine 25:403-422.

GUPTA, M. and PANT, J.C. 1988. Tribolium castaneum (Herbst) in endosymbiotic relation with microorganism. J. Entomol. Res. 12:171-174.

GUPTA, S., JAIN, M.K., KATIYAR, J.C. and MAITRA, S.C. 1992. Substituted benzimidazole carbamate: efficacy against experimental cysticercosis. Ann. Trop. Med. and Parasit. 86:51-57.

HURD, H. 1994. Interactions between parasites and insect vectors. Memorias do Instituto Oswaldo Cruz Rio de Janeiro 89(SUPPL. 2): 27-30.

LACKIE, A.M. 1986. Evasion of insect immunity by helminth larvae. Immune mechanisms of invertebrate vectors. The proceedings of a symposium held at the Zoological Society of London, on Nov. 14-15 November 1985. Symposia Zool.Soc. of London 56:161-178.

LAWSON, S.A. AND MORGAN, F.D. 1993. Prey specificity of adult Temnochila virescens F. (Col., Trogositidae), a predator of Ips grandicollis Eichh. (Col., Scolytidae). J. Appl. Entomol. 115:139-144.

LIPA, J.J. and HOKKANEN, H.M.T. 1992. Safety of Nosema meligethi I. and R. (Microsporidia) to Apis mellifera and Coccinella septempunctata. J. Invert. Pathol. 60: 310-311.

NOVAK, M., KORNOVSKI, B. and KUNZ, K.R. 1991. Anthelminthic activity of mitomycins A, C and F against hymenolepidid larvae in Tribolium confusum. Canad. J. Zool.69:1715-1717.

PARAJULEE, M.N. and PHILLIPS, T.W. 1993. Effects of prey species on development and reproduction of the predator Lyctocoris campestris (Heteroptera: Anthocoridae). Environ. Entomol. 22:1035-1042.

PARAJULEE, M.N., PHILLIPS, T.W. and HOGG, D.B. 1994. Functional response of Lyctocoris campestris (F.) adults: effects of predator sex, prey species, and experimental habitat. Biol. Control 4:80-87.

SENGUPTA, T., GHOSH, S. and HALDAR, D.P. 1991. The biology of Eliptocystis tribolii n. gen., n. sp., infecting the larvae of Tribolium castaneum (Herbst) in walnuts. Archiv fur Protistenkunde 140:209-218.

STEVENS, L. 1993. Cytoplasmically inherited parasites and reproductive success in Tribolium flour beetles. Anim. Behav. 46:305-310.

STEVENS, L. and WICKLOW, D.T. 1992. Multispecies interactions affect cytoplasmic incompatibility in Tribolium flour beetles. Am. Nat. 140:642-653.

SU, X.Z., and LIN, Y.G. 1986. The life history of Raillietina tetragona Molin and its natural intermediate host in Xiamen. Wuyi Science Journal 6:161-166.

SU, X.Z., and LIN, Y.G. 1985. The life history of chicken cestode Raillietina (Skrjabinia) cesticillus Mollin 1858 in Funjian (Cestoda: Davaineidae). Wuyi Science Journal 5:167-172.

WADE, M.J. and JOHNSON, N.A. 1994. Reproductive isolation between two species of flour beetles, Tribolium castaneum and T. freemani: variation within and among geographical populations of T. castaneum. Heredity 72:155-162.

WADE, M.J., PATTERSON, H. CHANG, N.W. and JOHNSON, N.A. 1994. Postcopulatory, prezygotic isolation in flour beetles. Heredity 72:163-167.

BIBLIOGRAPHY - TRIBOLIUM

YAN, G. and NORMAN, S. 1995. Infection of Tribolium beetles with a tapeworm: variation in susceptibility within and between beetle species and among genetic strains. J. Parasit. 81:37-42.

YAN, G., STEVENS, L. and SCHALL, J.J. 1994. Behavioral changes in Tribolium beetles infected with a tapeworm: variation in effects between beetle species and among genetic strains. Amer. Nat. 143:830-847.

12. PESTS

ALDRYHIM, Y.N. and ALYOUSIF, A. 1992. Inspection of wheat grain samples delivered to the Grain Silos and Flour Mills Organization in 1988-1989 with emphasis on insect infestation. Arab Gulf J. Scientific Res. 10: 65-75.

BASAK, P.K., CHOUDHURI, D.K. and SENGUPTA, T. 1991. On the beetle (Insecta: Coleoptera) infestation of milk powder at Calcutta warehouses. J. Bengal Nat. Hist. Soc. 10:50-55.

BEKON, A.K. FLEURAT-LESSARD, F. 1992. Assessment of dry matter loss and frass production in cereal grain due to successive attack by Sitophilus oryzae (L.) and Tribolium castaneum (Herbst). Insect Sci. and Appl. 13:129-136.

CHANDER, H., KULKARNI, S.G. and BERRY, S.K. 1992. Breeding potential of some cereal pests in pulses. J. Insect Sci. 5: 93-195.

DONAHAYE, E.J., NAVARRO, S. and RINDNER, M. 1995. Low temperature as an alternative to fumigation for disinfecting dried fruit from three insect species. J. stored Prod. Res. 31: 63-70.

HANKIN, L. and WELCH, K. 1991. Insects found during sanitary inspections. Dairy Food Environ. Sanit. Ames, Iowa: International and Environmental Sanitarians 11: 575-576.

HENCKES, C. 1992. Investigations into insect population dynamics, damage and loss of stored maize: an approach to IPM on small farms in Tanzania with special reference to Prostephanus truncatus (Horn). Deutsche Gesellschaft fur Technische Zusammenarbeit. Projekt fur Nacherntefragen. (GTZ), Hamburg, Germany, xiv + 124 pp.

KHALIL, S.K. and IRSHAD, M. 1994. Field estimates of population growth rate of some important grain pests in a heat stored at farm level in northern Pakistan. Sarhad J. Agriculture 10:273-278.

KUMARI, T.N., MAMMEN, K.V. and MOHANDAS, N. 1992. Occurrence and nature of damage caused by pests of stored copra in Kerala. Indian Coconut Journal Cochin 23:7-12.

LAVIGNE, R.J. 1991. Stored grain insects in underground storage pits in Somalia and their control. Insect Sci. Appl. 12:571-578.

PAGANI, M. FOGLIAZZA, D. CERIOLI, C. AND PIETRI, A. 1994. Ergosterol content in flour from tender wheat infested by Tribolium confusum du Val and Ephestia kuhniella Zeller. J. Applied Entomol. 117:318-320

RICE, P.J. and COATS, J.R. 1994. Insecticidal properties of monoterpenoid derivatives to the house fly (Diptera: Muscidae) and red flour beetle (Coleoptera: Tenebrionidae). Pestic. Sci. 41:195-202.

PILLAI, K.S., PANIESWAMI, M.S., RAJAMMA, P., MOHANDAS, C. and JAYAPRAKAS, C.A. 1993. Pest management in tuber crops. Indian Horticulture 38:20-23.

SECK, D. 1991. Economic importance and development of an integrated control approach against insect pests of stores of maize, millet and cowpea in farming areas. Sahel PV Info. 1991 No. 33, 15-20.

SEIFELNASR, Y.E. 1991. Suweba (mud bin) storage of grains in the Sudan. Indian J. Entomol. 53:494-502.

SEIFELNASR, Y.E. Stored grain insects found in sorghum stored in the central production belt of Sudan and losses caused. Tropical Sci. 32:223-230.

THRONE, J.E. and CUNNINGHAM, R.L. 1994. Ability of selected stored-product insects to infest polyurethane foams containing canary corn (maize) dextrin.

VAN EEDEN, C.F., VAN RENSBURG, J.B and VAN DER LINDE, T.C.D.K. 1994. Damage caused by the false wireworm, Somaticus angulatus (Fahraeus) (Coleoptera: Tenebrionidae). Appl. Plant Sci. 8:57-60.

WHITE, N.D.G. and JAYAS, D.S. 1993. Microfloral infection and quality deterioration of sunflower seeds as affected by temperature and moisture content during storage and the suitability of the seeds for insect or mite infection. Canad. J. Plant Sci. 73:303-313.

WHITE, N.D.G. and JAYAS, D.S. 1993. Effectiveness of carbon dioxide in compressed gas or solid formulation for the control of insects and mites in stored wheat and barley. Phytoprotection 74:101-111.

13. PHYSIOLOGY AND BIOCHEMISTRY

AHMAD, S.A. and HOPKINS, T.L. 1993. Phenol beta-glucosyltransferases in six species of insects: properties and tissue localization. Comparat. Biochem. Physiol. B, Comparative Biochem. 104, 515-519.

ALPATO, A.M., RIETVELD, W.J., ORYNTAEVA, L.B. and PUTILOV, A.A. 1994. Properties of the two-peak free running circadian rhythm of locomotor activity of the sand desert beetle Trigonoscelis gigas Reitt. Biiol. Rhythm Research 25:153-167.

ANDERSEN, S.O., RAFN, K., KROGH, T.N., HOJRUP,P and ROEPSTORFF, P. 1995. Comparison of larval and pupal cuticular proteins in Tenebrio molitor. Insect Biochem. and Molec. Biol. 25:177-187.

CHEN,M.S., FENG, G., ZEN, K.C., RICHARDSON, M.A, VALDES-RODRIGUEZ, S., REECK, G.R. AND KRAMER, K.J. 1992. alpha amylases from three species of stored grain Coleoptera and their inhibition by wheat and corn proteinaceous inhibitors. Insect Biochem. Molec. Biol. 22-261-268.

CRAIG, D.M. and MERTZ, D.B. 1994. Inbreeding effects on competition in Tribolium. Res. Population Ecol. 36:251-254.

DANIEWSKI, W.M., GUMULKA, M., PANKOWSKA, E. PTASZYNSKA, K., BLOSZYK, E. JACOBSSON, U. and MORIN, T. 1993. 3,8-Ethers of lactarane, sesquiterpenes. Phytochem. 32:1499-1502.

DONAHAYE, E. 1992. Physiological differences between strains of Tribolium castaneum selected for resistance to hypoxia and hypercarbia, and the unselected strain. Physiol. Entomol. 17:219-229.

ELEK J.A., and LONGSTAFF, B.C. 1994. Effect of chitin-synthesis inhibitors on stored product beetles. Pestic. Sci.40:225-230.

ENRIZ, R.D., BALDONI, H.A., JAUREGUI, E.A., SOSA, M.E., TONN, C.E. and Giordani, o.s. 1994. Structure-activity relationship of clerodane diterpenoids acting as antifeedant agents. J. Agric. Food Chem. 42:2958-2963.

GANDHI, R.S., and GOSWAMI, S.L. 1993. Comparative growth in Tribolium castaneum and Tribolium confusum. J. Dairying Foods & Home Sciences 12:191-194.

GREENBERG-LEVY, S.H., KOSTJUKOVSKY, M. RAVID, U. and SHAAYA, E. 1993. Studies to elulcidate the effect of monoterpenes on acetylcholinesterase in two stored-product insects. Acta Hortic. Wageningen: International Society for Horticultural Science Nov 1993, (344) p. 138-146.

HAEBEL, S., JENSEN, C., ANDERSEN, S.O. and ROEPSTORFF, P. 1995. Isoforms of a cuticular protein from larvae of the meal beetle, Tenebrio molitor, studied by mass spectrometry in combination with Edman degradation and two-dimensional polyacrylamide gel electrophoresis. Protein Sci. 4:394-404.

HALARNKAR, P.P. and SCHOOLEY, D.A. 1995. A comparative catabolism study of isoleucine by insect and mammalian tissues. Comparative Biochem. Physiol. B Comparative Biochem and Molecular Biol. 110-357-363.

HIRASHIMA, A., NAGANO, T., OISHI, R., and ETO, M.1993. Stereoselective response of Tribolium castaneum (Herbst) and Musca domestica L. against optically active 2-methoxy-5-phenyl-1,3,2-oxalazaphospholidine 2 sulfide. Comparative Biochem. and Physiol. 104:395-399.

HIRASHIMA, A., UENO, R. and ETO, M. 1992. Effects of various stressors on larval growth and whole-body octopamine levels of Tribolium castaneum. Pestic. Biochem. and Physiol. 44:217-225.

HIRASHIMA, A., OYAMA, K and ETO, M. 1990. Effect of insecticidal cyclic phosphorothionates on adenylate cyclase and phosphodiesterase. Pesticide Biochemistry and Physiol. 2:186-195.

HOPKINS, T.L. and KRAMER, K.J. 1991. Catecholamine metabolism and the integument. Physiology of the insect epidermis / K. Binnington and A. Retnakaran, Eds. E. Melbourne, Victoria, Australia: CSIRO Publications c1991. p. 213-239.

KROGH, T.N., SKOU, L., ROEPSTORFF, P., ANDERSEN, S.O. and HOJRUP, P. 1995. Primary structure of proteins from the wing cuticle of the migratory locust, Locusta migratoria. Insect Biochem. and Molec. Biol. 25:319-329.

LESCHEN, R.A.B. and CUTLER, B. 1994. Characteristics of two abundant satellite DNAs from the mealworm Tenebrio obscurus. J. Mol. Evol.39:489-495.

LESCHEN, R.A.B. and CUTLER, B. 1994. Cuticular calcium in beetles (Coleoptera: Tenebrionidae: Phrenapetinae). Annals Ent. Soc. America 87:918-921.

LIN, H., BLOOMQUIST, J.R., BEEMAN, R.W. and CLARK, J.M. 1993. Mechanisms underlying cyclodiene resistance in the red

rust flour beetle, Tribolium castaneum. Pesticide Biochem. and Physiol. 45:154-165.

MIRONAVA, T.P., PUSHNOVA, N.M. and MIRONAVA, T.P. 1992. Problems of breeding spring barley for fodder value. Vestsi Akademii Agrarnykh navuk Belarusi 2: 3-5.

MIYAKE, T. and OGURA, T. 1992. Studies on novel 3(2H)-pyridazinone derivatives with juvenile hormone-like activity. J. Pesticide Sci. 17: S231-S240

NISHINA, M., MATSUSHITA, K., HORI, E., TAKAHASHI, M. and KATO, K. 1993. 13C and 31P NMR spectroscopic studies on glucose metabolism in Tribolium confusum. Entomologia experimentalis et Applicata 1995. 66:269-274.

ODINOKOV, V.N., ISHMURATOV, G. YU., KHARISOV, R. YA., YAKOVLEVA, M.P., SULTANOV, R.M., SEREBRYAKOV, AE.P. OZHEMILEV U.M. and TOLSTIKOV, G.A. 1991. (1992). Insect pheromones and their analogues. XXXII. Chiral pheromones based on (S-(+)-3,7-dimethylocta-1,6-diene. 1. Synthesis of (4R,8RS)-4.8-dimethyldecanal. Chemistry of natural Compounds 27:500-502; translated from Khimiya Prirodnykh Soedinenii, 1991, 4:571-574.

OPPERT, B., MORGAN, T.D., CULBERTSON, C. AND KRAMER, K.J. 1993. Dietary mixtures of cysteine and serine proteinase inhibitors exhibit synergistic toxicity toward the red flour beetle, Tribolium castaneum. Comp. Biochem. Physiol. C, Comparative Pharmacol. and Toxicol. 105:379-385.

PAESEN,, G.C. and HAPP, G.M. 1995. The B proteins secreted by the tubular accessory sex glands of the male meal worm beetle, Tenebrio molitor, have sequence similarity to moth pheromone-binding proteins. Insect Biochem and Molec. Biol. 25:401-408.

PLOHL, M., LUCIJANIC-JUSTIC., V., UGARKOVIC, D., PETITPIERRE, E. and JUAN, C. 1993. Satellite DNA and heterochromatin of the flour beetle Tribolium confusum. Genome 36:467-475.

RANGASWAMY, J.R. and SASIKALA, V.B. 1991. Aggregation activity of compounds isolated from male red flour beetle Tribolium castaneum. Indian J. Exptal Biol. 29:52-55.

REDKOZUBOV, A. E. and BELOUSOVA, T.A. 1994. The single channel-initiated spikes in receptor cell of sensilla chaetica on flour beetle antennae. Biologicheskie Membrany. 11:389-392.

RICE, P. and COATS, J.R. 1994. Insecticidal properties of several monoterpenoids to the house fly (Diptera: Muscidae), red flour beetle (Coleoptera: Tenebrionidae), and southern

corn root worm (Coleoptera: Chrysomelidae).J. econ. Entomol. 87:1172-1179.

RONDOT, I., BOUHIN, H., CHARLES, J.P. MATHELIN, J. and DELACHAMBRE, J. 1995. Cuticular protein genes in Tenebrio molitor (Coleoptera: Tenebrionidae). European J. Entomol. 92:211-214.

RYAN, M.F., AWDE, J., and MORAN, S. 1992. Insect pheromones as reversible competitive inhibitors of acetylcholinesterase. Invert. Reproduction and Development. 22:31-38.

SANYAL, A. and DUREJA, P. 1992. Isolation and identification of impurities in technical quinalphos. J. Agric. and Food Chem. 40, 2013-20.

SAXENA, B.P., SHARMA, P.R., THAPPA, R.K. and TIKKU, K. 1992. Temperature induced sterilization for control of three stored grain beetles. J. stored Prod. Res. 28:67-70.

SHARMA, D.K. and PARMAR, B.S. 1990. Effect of different solvents and their fractions on the physico-chemical and biological performance of fenvalerate emulsifiable concentrates. Pestic. Research J. 2:69-82.

SVOBODA, J.A. and LUSBY, W.R. 1994. Variability of sterol utilization in stored-products insects. Experientia 50:72-74.

SZAFRANEK, J. MALINSKI, E. DUBIS, E., HENOWSKA, E., NAWROT, J., OKSMAN, P. AND PIHLAJA, K. 1994. Identification of branched alkanes in lipids of Leptinotarsa decemlineata Say and Tribolium destructor by GCl-MS: a comparison of main-beam and link-scanned spectra. J. Chemical Ecol. 20:2197-2212.

TARTES, U., and KUUSIK, A. 1994. Periodic muscular activity and its possible functions in pupae of Tenebrio molitor. Physiol. Entomol. 19;216-222.

TUFAIL, N., SALEEM, M.A. and SHAKOORI, A.R. 1994. Biochemical changes in sixth instar larvae of PAK and FSS-II strains of red flour beetle, Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae) following administration of sublethal doses of a synthetic pyrethroid;, bifenthrin. Pakistan J. Zool. 26:197-206.

VIJAY-SINGH AND SINGH, V. 1991. Effect of the protein fractions from cashewnut kernels (Anacardium occidentale L.) on the development of some stored grain pests. J. Insect Sci. 4:127-130.

ZABZA, A., and WAWRZENCZYK. 1994. Insect growth regulators:

XXV. Chemical approach to the correlation of dynamic structure and biological activity of juvenile hormone analogues. Acta Biochimica Polonica 41:375-384.

14. SPACE AND AERIAL ECOLOGY

BENNETT, R.L., ABBOTT, M.K. and DENELL, R.E. 1994. Insect gravitational biology: ground- based and shuttle flight experiments using the beetle Tribolium castaneum. J. Experimental Biol. 269:242-252.

15. SPECIATION

NILSSON, D.E. and RO, A.I. 1994. Old neural pooling for night vision lead to the evolution of neural superposition eyes. J. Comp. Physiol. 175:289-302.

PATEL, N.H. 1994. The evolution of arthropod segmentation: Insights from comparisons of gene expression patterns. Development 0 (SUPPL.):201-207.

(See also section 7 on Genetics for further references).

16. STATISTICAL METHODS AND MATHEMATICAL MODELS.

BEEMAN, R.W., STUART, J.J., DENELL, R.E., MCGAUGHEY, W.H. and DOVER, B.A. 1992. Tribolium as a model insect for study of resistance mechanisms. ACS Symp. Ser. Chem. Soc. Washington, D.C.: The Society. 1992 (505) p. 201-208.

CAMPO, J.L. and JORQUERA, M.J. 1995. Experimental comparison between weight-free and non-linear indices in Tribolium. J. Animal Breeding and Genet. 112:64-70.

HAGSTRUM, D.W. 1994. Field monitoring and prediction of stored-grain insect populations. Postharvest of stored-grain insect populations. Postharvest News and Information. 53:39N-45N.

HAGSTRUM, D.W., DOWDY, A.K. and LIPPERT, G.E. 1994. Early detection of insects in stored wheat using sticky traps in bin headspace and prediction of infestation level. Environ. Entomol. 23:1241-1244.

HAGSTRUM, D.W. and MILLIKEN, G.A. 1991. Modelling differences in insect developmental times between constant and fluctuating temperatures. Annals Entomol. Soc. Amer. 84:369-379.

HODGES, R.J., SIDIK, M.,, HALID, H. and CONWAY, J.A. 1992. Cost efficiency of respraying store surfaces with insecticide to protect bagged milled rice from insect attack. Trop. Pest Manage. 38:391-398.

KAUFMANN, B. and WOOL, D. 1992. Gene flow by immigrants into isolated recipient populations: a laboratory model using flour beetles. Genetica 85:163-171.

TUZINKEVICH, A.V., 1992. Model of dynamics of a bisexual population of Tribolium castaneum. Zhurnal Obshchei Biologii 53:820-829.

TUZINKEVICH, A.V., NEYMAN, J., PARK, T. and SCOTT, E.L. 1992. Modelling of spatial-temporal dynamics of the bisexual population of Tribolium confusum. Ecological Modelling 58:185-198.

ZHANG, L., WANG, X., ZHANG, Q., WANG, Y. and LIU, W. 1994. The simulation of sire evaluation using Tribolium castaneum for comparison of two statistical methods. Acta Genetica Sinica 21:441-446.

17. TAXONOMY

CARMI, Y. and PASTER, N. 1989. Insects in local wheat samples from the 1987 crop in Israel. Trop. Agric. 29:47-49.

CLAVIER, H. 1994. On Enoplus dentipes Rossi in Var (Col., Tenebrionidae). Entomologiste, (Paris) 50:349.

DAJOZ, 1994. New species and new localities of Coleoptera Tenebrionidae, Colydiidae, , Cerylonidae, and Erotylidae in Madagascar. Nouvelle Revue d"Entomologie 11: 165-184.

CHUJO, W. 1995. Gonocephalum ficifolium, a new species of Tenebrionidae from Japan (Coleoptera). Esakia 0(35):113-116.

DOYEN, J.T. 1995. A new genus and four new species of Coelometopini from Mesoamerica (Coleoptera: Tenebrionidae). Coleopterists Bulletin 49: 8-14.

FERRER, J. 1993. Attempt at a revision of the African and European species of the genus Gonocephalum Solier (Coleoptera: Tenebrionidae). Atti del Museo Civico di Storia Naturale di Trieste 45:59-150.

HAITLINGER, R. 1994. The new species of Leptus Latreille, 1796 (Acari: Prostigmata: Erythraeidae) associated with Tenebrionidae (Insecta: Coleoptera). Israel J. Entomol. 28"139-149.

KOMPANTSEVA: T.V. 1994. Mycetophilous tenebrionid fauna of Bolitophagini and Diaperini (Coleoptera: Tenebrionidae) from Middle Asia. Byulleten' Moskovskogo obshchestva ispytatelei Prirody otdel Biologicheskii 99:44-47.

LABES, R.U.D. and ROESSNER, E. 1993. The insect fauna of owl pellets (Col., Lep.). Entomologische Nachrichten und Berichte 17:235-241.

LILLIG, M. 1994. The subgenus Eodirosis Kwieton of the genus Erodius Fabricius, with two new species and a key to species (Coleoptera: Tenebrionidae: Pimeliinae: Erodiini). Israel J. Entomol. 28:151-158.

MAKHAN, D. 1992. One new Zophobas species from Suriname, with a checklist of the Suriname species (Coleoptera: Tenebrionidae). Brenesia 0(37):131-132.

MASUMOTO, K. 1994. A study of the Asian species of the genus Ceropria (Coleoptera, Tenebrionidae, Diaperini) (Part I).Japanese J. Entomol. 62: 763-774.

MILANDER, G. 1991. On the Tenebrionidae (Coleoptera) of Estonia. Eesti Teaduste Akadeemia Toimetised Bioloogia 40:62-76.

NWANA, I.E. 1993. A survey of storage coleoptera which attack dried cocoyam chips in Nigeria. J. stored Prod. Res. 29:95-98.

ROSTOM, Z.M.F. 1993. Survey of some granivorous and non-granivorous insects and mites of stores in Saudi Arabia. J. stored Prod. Res. 29:27-31.

SANTAMARIA, S. 1994. New or interesting species of Dimeromyces (Laboulbeniales, Ascomycotina). Nova Hedwigia 58:177-189.

SCHAWALLER, W. 1995. Revision of the Laena species from Middle Asia (insecta, Coleoptera, Tenebrionidae). Spixiana 18:65-73.

SOLDATI, L.1994. Revision of the North -African Blaps: The species of the Blaps alternans Brulle group (Coleoptera: Tenebrionidae). Bulletin de la Societe Entomologique de France 99:117-125.

TRIPLEHORN, C.A. 1994. Studies in neotropical Neomida: Descriptions of eight new species (Coleoptera: Tenebrionidae) Proc. Entomol. Soc. Washington 86:417-427.

TRIPLEHORN, C.A. 1994, A new species of Platydema Laporte and Brulle from Peru, with notes on similar species (Coleoptera: Tenebrionidae). Coleopterists Bulletin 48: 245-251.

WISNIEWSKI, J. and HIRSCHMANN, W. 1993. Stages of three new Proseius (Apionoseius) species (Acarina, Uropodina) on Trox species (Coleoptera, Tenebrionidae) from the USA and Brazil. Bull. Polish Acad. Sci. Biological Sciences 41:85-97.

WONG-CORRAL, F.J., CORTEZ-ROCHA, BORBOA-FLORES, J. and BUSTAMANTE-ANDRADE, F. 1992. Insect species infesting grain stored in rural communities in the northeast of Sonora, Mexico. Southwest-Entomol. Dallas, Tex. Southwestern Entomol. Soc., 17:327-331.

BIBLIOGRAPHY - TRIBOLIUM

18. TECHNIQUE

ARTHUR, F.H. 1994. Feasibility of using aeration to control insect pests of corn stored in Southeast Georgia: Simulated field test. J. Econ. Entomol. 87: 1359-1365.

CHAUDHRY, M.Q., AHMED, H. and ANWAR, M. 1989. Development of an airtight polyethylene enclosure for integrated pest management of grains, stored at farm level in Pakistan. Trop. Sci. 29:177-187.

FARGO, W.S., CUPERUS, G.W., BONJOUR, E.L., BURKHOLDER, W.E., CLARY, B.L. and PAYTON, M.E. 1994. Influence of probe trap type and attractants of four stored grain Coleoptera. J. stored Prod. Res. 30:237-241.

HAGSTRUM, D.W. and FLINN, P.W. 1995. Comparison of acoustical detection of several species of stored-grain beetles (Coleoptera: Curculionidae, Tenebrionidae, Bostrichidae, Cucujidae) over a range of temperatures. J. econ. Entomol. 86:1271-1278.

HAGSTRUM, D.W., DOWDY, A.K. and LIPPERT, G.E. 1994. Early detection of insects in stored wheat using sticky traps in bin headspace and prediction of infestation level. Environmental Entomol. 23: 1241-1244.

KUBOTA, T. and SHIGA, M. 1995. Successive mass rearing of Chrysopids (Neuroptera: Chrysopidae) on eggs of Tribolium castaneum (Coleoptera: Tenebrionidae). Japanese J. Appl. Entomol. Zool. 39:51-58.

19. TERATOLOGY

KUUSIK, A. METSPALU, L., HIIESAAR, KOGERMAN, A. and TARTES, U. 1993. Changes in muscular and respiratory activity patterns in yellow mealworm (Tenebrio molitor) and greater wax moth (Galleria mellonella) pupae caused by some plant extracts, juvenile hormone analogues and pyrethroid. Eesti Teaduste Akadeemia Toimetised Biloogia 42:94-107.

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Abdel- Salam, KA. Atomic Energy Authority, NRC, Radiobiol. Dep., Abo-Zaabal 13759, Egypt.

Adem, E. Instituto de Fisica, Universidad Autonoma de Mexico, Apartado Postal 20-364, Delegacion Alvaro Obregon 01000, D.F., Mexico.

Ahmad, M.S. Pakistan Agricultural Research Council, Islamabad, Pakistan.

Ahmad, R, Dep. Studies Bio-Sciences, Mangalore Univ., Mangalagangothri, Konaje-574 199, India.

Ahmad, S.A. Department of Entomology, Kansas State Univ., Manhattan KS 66506-4004, USA.

Ahmed. K.N. BCSIR Lab., Rajshahi Univ. Rajshahi-6206, Bangladesh.

Ahmed, M. Grain Storage Research Laboratory, Pest Managememnt Research Institute, Pakistan Agricultural Research Council, Karachi University Campus, Karachi 75270, Pakistan.

Akhtar, N. Dept. Zool., Rajshahi Univ., Rajshahi 6205, Bangladesh.

Al-Alawy, S.A.M. Plant Protection Res. Cent., General Body Applied Agric. Res., Abu-Ghraib, Iraq.

Al-Hafidh, E.M.T. School Agric., Univ. Newcastle upon Tyne, NE1 7RU UK.

Alam, M.S. Storage Res. Lab., PARC, Karachi Univ., Campus, Karachi, Pakistan.

Aldryhim, Y.N. Plant Protection Department, College of Agriculture, King Saud University, Riyadh 11451, Saudi Arabia.

Alikhan, M.A. Dept. Biology, Laurentian Univ., Sudbury, Ont., Canada.

Allotey, J. Dep. Biol. Sci., Rivers State Univ. Sci. Technol., Port Harcourt, Nigeria.

Alonso-Amelot, M.E. Grupo Quimica Ecologia, Departamento

Quimica, Facultad Ciencias, Universidad de Los Andes, Merida 5101 Venezuela.

Alvarez-Fuster, A. Lab. Genetica, Dep., Biol. Ambiental, Ciencies, Univ. Iles Balears, 07071 Palma de Mallorca, Spain.

Ambadkar, P.M. Div. Entomol., Dep. Zoology, M.S. Univ. Baroda, Baroda 390 002, India.

Anderegg, B.N. U.S. Grain Marketing Res. Lab., ARS, USDA, Manhattan, Kansas 66502, USA.

Andreev, D. Dep. Entomol., Univ. Wis. Madison, Madison, Wis 53706, USA.

Anioke, S.C. National Root Crops Research Institute, Umudike P.M.B. 7008, Umuahia, Nigeria.

Arbogast, R.T. Stored-Product Insects Research and Dev't Lab., USDA-ARS, Savannah, GA 31403.

Arevad, K. Statens Skadedyrlaboratorium, Skovbrynet 14, DK-2800 Lyngby, Denmark.

Armstrong, E. Dept. of Entomol., Univ. of Maryland, College Park, MD 20742, USA.

Arthur, F. Stored-Prod. Insects Res. and Dev't Lab., USDA-ARS, Savannah, GA 31403.

Atanasov, Institut za Zashchita na Rasteniyata, Kostinbrod, Bulgaria.

Attia, F.I. Biological & Chemical Research Institute, New South Wales Department of Agriculture, PMB 10, Rydalmere, NSW 2116, Australia.

Awadallah, K.T. Biological Control Lab., Dep. Entomology & Pesticides, Fac. Agric., Cairo Univ., Egypt.

Aziz, P. Food Technol. Fermentation Div., PCSIR Lab., Ferozpur Rd. Lahore-54600,

Baker, J.E. Stored Products Insects Res., Dev. Lab. USDA ARS, P.O. Box 22909, Savannah, GA, 31403.

Banerjee, T.C. Department of Zoology, Burdwan Univ., Burdwan 713 104, India.

Barak, A.V. Zoecon Corp,. Palo Alto, California, 94304, USA

Barker, P.S. Agric. Can. Res. Stn., 195 Dafoe Rd., Winnipeg, Manit. R3T 2M9, Canada.

Barrer, P.M. CSIRO Div. of Entomology, P.O. Box 1700, Canberra City, ACT 2601 Australia.

Barrett, J. Inst. Biol. Sci., Univ. Wales, Aberystwyth, Aberystwyth, Dyfed SY23 3DA, UK.

Basak, P.K. A.B.N. Seal College, Cooch-Behar, West Bengal, India.

Bass, L.K. Dep. Entomol., Univ. Maryland, College Park, Md. 20742.

Beeman, R.W. U.S. Grain Marketing Research Laboratory, USDA ARS, 1515 College Avenue, Manhattan, KS 66502, USA.

Beevi, S.R. College of Agriculture, Kerala Agricultural University, Vellayani 695 522, India.

Bell, C.H. Ministry of Agriculture, Fisheries and Food, Slough Laboratory, Berkshire, United Kingdom.

Bennett, R.L. Center for Gravitational Studies in Cellular and Developmental Biology, Division of Biology, Kansas State University, Manhattan, Kansas 66506-4901, USA.

Bengston, M.Entomology Branch, Dept. Primary Industries, Indooroopilly, Brisbane 4068, Australia.

Berger, H.K. Bundesanstalt fur Pflanzenschuts, A-1020 Vienna, Austria.

Bhattacharyya, P.R. Div. Medicinal Economic Plants, Regional Res. Lab., Jorhat 785 006, India.

Bekon, K.A. ENSA, Dep. Zool. 08 BP 35 Abidjan, 08, Ivory Coast.

Bell, C.H. ADAS Slough Lab., Ministry Agric. Fisheries Food, London Rd, Slough, Berks SL3 7HJ, UK.

Ben-Shlomo, R. Dep. Genetics, Hebrew Univ. Jerulalem, Jerusalem 91904, Israel.

Bhatia, P. Nuclear Research Lab., Indian Agric. Res. Inst., New Delhi 110012, India.

Bijok, P. Dep. Ecol. Bioeng., Inst. Ecol., Polish Acad. Sci., Dziekanow Lesny, 05-092 Lomianki, Poland.

Binns, T.J. MAFF. Slough Lab., Berks., UK.

Blanco, L.R. Philipp. Atomic Energy Commission, Diliman, Quezon City, Philippines.

Boake, C.R.B. Dep. Zool., Univ. Tennessee, M313 Walters, Knoxville, Tenn. 37996-0810.

Bohn, G.I. Dept. of Animal & Poultry Sci., Guelph University, Ontario N1G 2W1, Canada.

Boon, K.S. Dept. Zool., Natl. Univ. Singapore, Lower Kent Ridge Rd., Singapore, 0511 Singapore.

Bradbrook, D.A. Dep. Biol. Sci., Exeter Univ. Perry Rd. Exeter EX4 4QG, Devon, UK.

Brower, J.H. Stored-Product Insect Research and Development Laboratory, USDA-ARs, P.O. Box 22909, Savannah, GA 31403, USA.

Brown, S. J. Div. Biol., Ackert Hall, Kansas State Univ., Manhattan, Kansas 66506.

Brun, J.M. INRA, Station d'Amelioration Genetique des Animaux, BP 27, F31326 Castanet-Tolosan Cedex, France.

Brun, L.O. ORSTOM, Centre de Noumea, BP A5, New Caledonia.

Buchi, R. Eidgenossische Forschungsanstalt fur Landwirtschaftlichen Pflanzenbau, Reckenholz (FAP) CH-8046 Zurich, Switzerland.

Buscarlet, L.A. DPVE, Centre de Cadarache, 13108 Saint Paul Lez Durance, France.

Caballero, A. Dept. Genet., Fac. Ciencias Biol., Univ. Complutense, 28040 Madrid, Spain.

Calderon, M. Dep. Stored Products, ARO, Volcani Center, Bet Dagan 50250, Israel. (Alternate address: Stored Product Insects Research and Development Laboratory, ARS, USDA, Savannah, Georgia 31403, USA).

Campo, J.L. Dep. Genet. Quantitativa y Mejora Anim., Inst. Nacional de Investigaciones Agrarias, Apdo 8.111, 28080, Madrid, Spain.

Carbonell, E.A. Inst. Valenciano Invest. Agrarias., Apdo Oficial, E-46113 Moncada, Spain. (Alternate address: Seccion de Proceso de Datos, Instituto Nacional de Investigaciones Agrarias, Apdo 8111, Madrid, Spain).

Castro, L. Inst. Nacional Investigaciones Agrarias, Dep. Produccion Animal, Apartado 8111, 28080 Madrid, Spain.

Cenis, J.L. Dpto. Proteccion Vegetal, CIDA, 30150 La Alberca, Spain.

Chagas, E.F. das. Depto de Biologia, Universidade Federal do Maranhao, 65000 Sao Luis, Maranhao, Brazil.

Chagolla-Lopez, A. Int. Cent. Genetic Eng. Biotechnol., 34012 Trieste, Italy.

Chakanyuka, K.M. Department of Crop Science, University of Zimbabwe, PO Box MP 167, Mount Pleasant, Harare, Zimbabwe.

Chander, H. Central Food Technol. Res. Inst., Regional Centre, Gill Rd., Ludhiana -141 006, India.

Chang, N.W. Dep. Ecol. Evol., Univ. Chicago, Chicago, IL 60637, USA.

Chaudhry, M.Q., Dep. Physiol. Biochem., Univ. Reading, Whiteknights, Reading, Berkshire RG6 2AJ, UK

Chavez, G. Dep. Biol., Univ. Nac. Colombia, Apdo. Aereo 14490, Bogota, DC, Colombia.

Chen, M.S. U.S. Grain Marketing Res. Lab., ARS USDA Manhattan, Kansas 66502.

Chen, W.M. Dep. Chemistry and Biochem., Univ. of Texas, Austin, TX 78712, USA.

Cheng, C.H.C. Dep. Physiol. Biophysics, Univ. Ill., 524 Burrill Hall, 407 S. Goodwin, Urbana, Ill. 61801, USA.

Chon, W.K. Dep. Agric. Biol., Coll. Agric., Korea Univ., Seaoul 136-701 KOrea.

Chujo, M. Hikosan Biol. Lab., Fac. Agric., Kyushu Univ., Hikosan, Fukuoka 824-07, Japan.

Cline, L.D. Stored-Product Res. & Dev. Lab., ARS, USDA, Savannah, GA 31403, USA.

Cofie-Agblor, R. Dept. Agric. Engineering, Univ. Manitoba, Winnipeg, Man. R3T 2N2, Canada.

Cogburn, R.R. Rice Res. Unit, USDA ARS. Beaumont, TX 77713.

Cohen, E. Dep. Entomol., Hebrew Univ. Jerusalem, Fac. Agric., Rehovot 76-100, Israel

Collins, P.J. Entomol. Branch, Dep. Primary Industries, Meiers Rd., Indooroopilly, Queensl. 4068, Australia.

Conn, D.B. Dep. Biol. Sci., Univ. Cincinnati, OH 45221, USA.

Conner, J. Dep. Ecol. Ethol. and Evolution, Univ. of Illinois, Shelford Vivarium, 606 E. Healey, S., Champaign, Ill. 61820, USA.

Corral, F.J.W. Depto. de Investigacion y Posgrado en Alimentos de la Universidad de Sonora, Apdo. Postal 1658, Hermosillo, Sonora, Mexico.

Coustau, C. Dep. Entomol. 237 Russell Lab., 1630 Linden Drive, Univ. Wisconsin-Madison, Madison, WI 53706.

Craig, D.M. Dep. Natural Sci., Rosary College, River Forest, Il 60305, USA.

Cravedi, P. Istituto de Entomologia, Facolta di Agraria, Piacenza, Italy.

Cunat, P. Inst. de Agroquimica y Tecnol. de Alimentos, CSIC, Jaime Roig 11, 46010 Valencia, Spain.

Cuperus, G.W. Dep. Entomol., Oklahoma State Univ. Stillwater, Okla. 74078.

Daglish, G. J. Div. Plant Protection, Queensland Dep. Primary Industries, Meiers Road, Indooroopilly, Australia 4068.

Daly. P.J. Department of Zoology, University College, Dublin 4, Irish Republic.

Daniewski, W. M. Inst. Organic Chem., Polish Acad. Sci., ul. Kasprzaka 44, 01-224, Warsawa, Poland.

Davis, R. Stored-Product Research & Development Lab. ARS, USDA, P.O. Box 22909, Savannah, Georgia 31403, USA.

Dawson, P.S. Formerly at Dept. of Zool. Oregon State Univ., is no longer active in Tribolium research.

Delobel, A. Museum Natl. Hist. Naturelle, Antenne ORSTOM, Entomol., 45 rue de Buffon, F-75005, Paris, France.

Desharnais, R.A. Dep. Biol., Calif. State Univ., Los Angeles, Calif. 90032-8201.

Desmarchelier, J.M. Biologische Bundesanstalt fur Land- und Forstwirtschaft, Berlin Dahlem, Germany.

Devakumar, C. Division of Agricultural Chemicals, Indian Agric. Res. Inst. New Delhi 110012, India.

Dhingra, S. Dev. Entomology, Indian Agric. Res. Inst., New Delhi-110012, India.

Dibs, S. Birzeit University, Faculty of Science, Department of Biology and Biochemistry, Birzeit, West Bank, Jerusalem, Israel.

Dion, N. Departement de Zootechnic, Universite Laval, Quebec, PQ, G1K 7P4, Canada.

Dodd, G.D. Pesticides Division, Wellcome Foundation Limited, Crewe, Cheshire, CW1 1UB, UK.

Dortbudak, N. Ambar Zararlilari Laboratuvari, Bolge Zirai Mucadele Arastirma Enstitusu, Ankara, Turkey.

Donahaye, E. Dep. Stored Prod., ARO, Volcani Center, Bet Dagan 50250, Israel.

Duguet, J.S. ROUSSEL UCLAF, HPE, 163 Avenue Gambetta, 75020 Paris, France.

Dunkel, F. V. Dep. Entomol., Montana State Univ., Bozeman, MT 59717, USA.

Edwards, J.P. Ministry of Agriculture, Fisheries and Food, Slough Laboratory, Berkshire, UK.

Eisa, A.A. Plant Protection Department, Faculty of Agriculture, Minufiya University, Shebin El-Kom, Egypt.

Elder, W.B. Div. Chem & Wood Technol., CSIRO, Melbourne, Victoria 3004 Australia.

Elegami, A.A.B. Dep. Biochem., Fac. Agric., Univ. Khartoum, Khartoum, Sudan.

Elek, J.A. CSIRO, Div. Entomol., GPO Box 1700, Canberra 2601, ACT, AUL.

El-Mofty, M.M. Zool. Dept., Fac. Sci., Alexandria University., Alexandria, Egypt.

El-Nahal, A.K.M. Dep. Econ. Entomol. Pesticides, Fac. Agric., Cairo Univ., Giza, Egypt.

El-Sherif, H.K. Plant Protection Dept. Entomology Div., Faculty of Agriculture, Alexandria University, Alexandria, Egypt.

Emebiri, L.C. Dep. Crop Prod., S.A.A.T., Fed. Univ. Technol., Owerri, P.M.B. 1526 Nigeria.

Enfield, F.D. Dep. Genetics, Cell Biol., Univ. Minn., St. Paul, MN 55108, USA.

Evans, D.E. CSIRO Div. of Entomology, Canberra, ACT, Australia.

Evans, N.J. Tropical Development & Research Institute, Storage Department, Slough, Berks. SL3 7HL, UK.

Evans, W.S. Dep. Biol., Univ. Winnipeg, Winnipeg, Man., Canada R3B 2E9.

Falconer, D.S. Dep. Genetics, Univ. Edinburgh, West Mains Rd., Edinburgh EH9 3JN, Scotland.

Faragalla, A.A. Dept. Plant Protection, College of Agric., King Saud Univ., Riyadh 11451, Saudi Arabia.

Fargo, W.S. Dep. Entomol., Div. Agriculture, Oklahoma State Univ., Stillwater, Okla. 74078.

Fernando, R.L. Dept. Animal Sci. Univ. of Illinois, Urbana, Illinois 61801, USA.

Fisher, J. Trece, Inc. Salinas, CA, USA.

Fogliazza, D. Istituto di Entomologia, Facolta di Agraria, Piacenza, Italy.

French, V. Institute of Cell, Animal and Population Biology, University of Edinburgh, Edinburgh EH9 3JT, UK.

Friedlander, A. Stored Products Division, Institute for Technology and Storage of Agricultural Products, Israel.

Fuganti, C. CNR Cent. di Studio per le Sostanze Organiche Naturali, Dip. di Chim. Politecnico di Milano, 20133 Milan, Italy.

Gandhi, R.S. Div. Cattle Breeding, Natl. Dairy Res. Inst., Karnal, India.

Garcia, C. Dep. Genetica, Fac,.Biol. Univ. Santiago Compostela, La Coruna, Spain. (Alternative address: Facultad de Biologia, Area de Genetica, Departamento de Biologia Fundamental, Santiago de Compostela, Galicia, Spain).

Gazit, Y. Dep. Entomol., ARO, Volcani Cent. Bet Dagan, 50250, Israel.

Gearheart, W.S., Claflin Coll., Orangeburg, S.C. 29115.

Ghose, S. Protozool. Lab., Fac. Biol. Univ. Santiago Compostela, La Coruna, Spain.

Giga, D.P. Dep. Sci., Univ. Zimbabwe, P.O. Box MP 167, Harare, Zimbabwe.

Goergen, G. Institut Organische Chemie, Richard Willstaetter-Allee, D-7500 Karlsruhe, Germany.

Gomy, Y. Residence Le Tour de Marne, 94340 Joinville-le-Pont, France

Goodnight, C.J. Dep. Zool., Univ. Vermont, Marsh Life Sci. Building, Burlington, Vermont, 05405-0086, USA.

Gordon, D.M. Dep. Zool., King's Coll., Univ. of London, London WC2R 2LS, UK.

Graur, D. Dept. of Zool., George S. Wise Faculty of Life Sciences, Tel Aviv University, Po Box 39040, Ramat Aviv, Tel Aviv 69978, Israel.

Greening, H.G. Biological & Chemical Research Institute, Dep. Agric., PMB 10, Rydalmere, New South Wales, 2116, Australia.

Grisse, A. de Leerstoel voor Dierkunde, Fakulteit Landbouwwetenschappen, Rijksuniversiteit Gent, Coupure 653, B-9000 Ghent, Belgium.

Gupta. A.K. Division of Dairy Cattle Genetics, and Breeding, National Dairy Research Institute, Karnal, Haryana, 132 001, India.

Gupta, G.P. Entomological Substation, IARI, Haddo, Port Blair, Andaman and Nicobar Islands, India.

Gupta, H.C.Agric. Exp. Stn., Durgapura Jaipur, India.

Gupta, M. Div. Entomol., Indian Agric. Res. Inst.,New Delhi 110012,

Hafez, S.M.Plant Protec. Dep., Fac. Agric., Ain Shams Univ., Shoubra El-Kheima, Egypt.

Hagstrum, D.W. U.S. Grain Marketing Res. Lab., USDA ARS, Manhattan, Kans. 66502, USA.

Halliday, W.R. Ricerca Inc., P.O. Box 1000, Painesville, Ohio 44077-1000.

Hamel, D. Fak. Poljovrednih Znanosti, Inst. za Zastitu Bilja, Zagreb, YUgoslavia.

Haque, M.M. Department of Zoology, Univ. of Rajshahi, Rajshahi 6205, Bangladesh.

Hasan, M. Dept. Zool., Univ. of Rajshahi, Rajshahi, Bangladesh.

Hasan, S.B. Discipline of Infestation Control and Pesticides, Central Food Technological Research Institute, MYsore 570013, Karnataka, India.

Hastings, A. Div. Environ. Studies, Inst. Theoretical Dynamics, Univ Calif., Davis, Calif. 95616, USA

Hebanowska, E. Inst. Chem., Univ. Gdansk, Sobieskiego 18, 80-952 Gdansk, Poland.

Highland, H.A. Stored-Product Insects Res. & Dev. Lab., ARS. USDA, Savannah, GA 31403. USA

Hines, M.E. Dep. Food Sci., Smith Hall, Purdue Univ., West Lafayette, Indiana, 47907.

Hirashima, A. Dep. Agric. Chem., Kyushu Univ. Fukuoka 812, Japan.

Ho, S.H. Department of Zoology, National University of Singapore, Lower Kent Ridge Rd., Singapore 0511.

Hobbs, S.K. Res. Cent., Agric. Canada, 1400 WEstern Road, London, Ont., Canada N6G 2V4.

Hodges, R.J. Natural Resources, Inst., Central Ave., Chatham Maritime, Chatham, Kent ME4 4TB, UK.

Hogan, R.W. U.S. D.A. ARS, Grain Marketing Res. Lab., Manhattan, Kansas 66502.

Hohenboken, W.D. Dep. Anim. Sci., Va. Polytechnic Inst., Va. State Univ., Blacksburg, Va 24061.

Hole, B.D. MAFF, Slough Laboratory, Berks, SL3 7HJ, UK.

Horton, P.M. Dept. Entomology, Fisheries and Wildlife, Clemson Univ. South Carolina 29631, USA.

Howard, R.W. U.S. Grain Marketing Res. Lab., ARS, USDA, Manhattan, KS 66502, USA.

Hu, M.Y. Dep. Plant Prot., South China Agric. Univ. Changzhou, China.

Hurst, L.D. Dep. Genetics, Univ. Cambridge, Cambridge CB2 3JE, UK.

Husain, M. Zoology Section, BCSIR Laboratories, Rajshahi, Bangladesh.

Hussain, M.M. Zoology Section, BSCIR Lab., Rajshahi, Bangladesh.

Hussain, M.W. Dep. Botany, Government Coll., Lahore, Pakistan.

Hussain, M.M. Zoology Section, BSCIR., Rajshahi, Bangladesh.

Ilyas, S.M. Central Rice Research Institute, Cuttack 753 006, Orissa, India.

Imura, O. Population Ecol. Lab., Natl. Inst. Agro-Environ. Sci., Kannondai, Tsukuba, Ibaraki 305 Japan.

Ingemansen, J.A. Plant Sci. Dep. (Entomology Section), South Dakota State Univ. Brookings, SD 57007, USA.

Iqbal, J. Entomol. Res. Lab., Natl. Agric Res. Cent.,, Islamabad, Pakistan.

Irshad, M. Entomolgical Research Laboratories, NARC, Islamabad, Pakistan.

Ishaaya, I. Div. of Entomol., Agricultural Res. Organisation, Volcani Center, Bet Dagan, 50-250, Israel.

Jahan, S. Dept. Zool., Rajshahi Univ., Rajshahi Univ., Rajshahi 6205, Bangladesh.

James, D.G. Yanco Agric. Inst., N.S.W. Agric., Yanco, NSW 2703, Australia.

Janus, M.C. MRC Unit Development Integration of Behaviour, Cambridge, Univ., Madingly, Cambridge CB3 8AA, UK.

Javer, A. Cent. Pest Manage., Dep. Biol. Sci., Simon Fraser Univ., Burnaby, B.C. V5A 1S6, Canada.

Jay, E. Stored-Product Insects Research and Development Laboratory, ARS, USDA, Savannah, GA 31403, USA.

Jeffries, P.R. Pesticide Chem. Toxicology Lab., Dep. Entomol. Sci., Univ. Calif., Berkeley, California 94720.

Jhala, R.C. Dep. Entomology, Gujarat Agric. Univ., Navsari, India.

Joia, B.S. Research Station, Agriculture Canada, Winnipeg, Manitoba, R3T 2M9, Canada.

Jood, S. Department of Food and Nutrition, C.C.S. Haryana Agricultural University, Hisar 125 004, India.

Juan, C. Lab Genetica, Dep. Biologia Ambiental, Univ. Illes Balears, Palma de Mallorca 07071, Spain.

Kaczmarek, S. Katedra Biologii Wyzszej, Szkoly Pedagogicznej, Ul. Arciszwskiego 22b 76-200 Slupsk, Poland.

Kalmus, G.W. Dep. Biol., East Carolina Univ., Greenville N.C. 27858.

Kalra, V.K. Sep. Entomol., Haryana Agricultural Univ., Hisar 125 004 India.

Kamble, M.Y. College of Agriculture, Pune 411 005, India.

Kandil, M.A. Dep. Economic Entomology and Pesticides, Fac. Agric., Cairo Univ., Egypt.

Karan-Singh. Infestation Control & Pesticides Discipline, Central Food Technological Research Institute, Mysore 570013, India.

Karpilova, I.F. Inst. Soil Sci. Photosynth., Acad. Sci. Russ., Pushchino, Russ.

Kaufman, B. Dept Zool. George S. Weise Faculty Lifesciences, Tel Aviv Univ. Ramat Aviv 69978, Israel.

Kelly, M.P. Central Science Laboratory, MAFF, London Rd, Slough, Berks., SL37HJ, UK.

Khalequzzaman, M. Dep. Zool., Univ. Rajshahi, Rajshahi-6205, Bangladesh.

Khalil, S.K. N.W.F.P. Agric. Univ., Peshawar, Pakistan.

Khan, A.R., Dep. Zool., Rajshahi Univ., Rajshahi, Bangladesh.

Khanam, L.A.M. BSCIR Laboratories, Rajshahi, Bangladesh.

Khattack, S.U.K. Nuclear Inst. Food Agric., Tarnab, Peshawar, Pakistan. (Also addressed at Nuclear Institute for Agriculture and Biology, Faisalabad, Pakistan).

Kishore, P. Division Entomology, Indian Agricultural Research Institute, New Delhi 110012, Delhi, India.

Kispert, A. Max-Planck Inst. Entwicklungsbiologie, Abteilung Zellbiologie, D-72076. Tubingen, Germany.

Kok, R. Dep. Agric. Engineering, MacDonald College, McGill Univ., 21111 Lakeshore Blvd., Ste. Anne de Bellevue, Que. H9X 1C0, Canada.

Konarev, A.V. Vsesoyuznyi N. i Institut Zashchity Rastenii, Leningrad, USSR.

Korona, R. Inst. Environmental Biology, Jagiellonian Univ., M. Karasia 6, 30-060 Krakow, Poland.

Kotaki, T. Natl. Inst. Seric. Entomol. Sci., Tsukuba, Ibaraki 305, Japan.

Kramer,, K.J. U.S. Grain Marketing Research Lab., 1515 College Ave., Manhattan, Kansas 66502.

Krishnamurthy, T.S. Infestation Control and Protectants Area, Central Food Technological Research Institute, Mysore-570 013, India.

Kubota, T. Natl. Inst. Agro-Environ. Sci., Tsukuba, Ibaraki 305, Japan.

Kumari, T.N. College of Agriculture, Vellayani 695 522, Thiruvananthapuram, India.

Lawson, S.A. Lab. Forest Zool., Dep. Forestry, Univ. Tokyo, Yayoi 1-1-1, Bunkyo-ku, Tokyo 113, Japan.

Le Patourel, G.N.J. Dep. Pure and Applied Biol., Imperial Coll., Silwood Park, Ascot, Berks., SL5 7PY, England.

Lee, R.E.Jr. Dep. Zool., Miami Univ., Oxford, Ohio 45056.

Leesch, J.G. USDA ARS, Stored-Product Insects Res. Devt. Lab., 3401 Edwin St., Savannah, GA, USA.

Levchenko, E.A. Vsesoyuznyi selektionno-geneticheskii Institut, Odessa, Ukrainian SSR.

Lewis, S.M. Dep. Organismic Evolutionary Biol., Biological Lab., Harvard Univ., Cambridge Univ., Cambridge, Mass 02138.

Li, L. Stored Prod. Insects Res. Dev. Lab., USDA ARS P.O. Box 22909. Savannah, GA.

Li, M.D. Dep. Genetics Cell Biol.., 270 Bioscience Center, Univ. Minnesota St. Paul, Minn. 55108.

Liang, C. Dep. Biochem. Kansas State Univ., Manhattan, KS 665-6, USA.

Lima, CPF de. Malkerns Research Station, PO Box 4, Malkerns, Swaziland.

Lin, H. Dep. Entomol., Univ. Massachusetts, Amherst, Massachusetts 01003.

Lindgren, B.S. Centre for Pest Management, Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia, V5A 1S6, Canada.

Lipa, J.J. Institute of Plant Protection, Miczurina 20, 60-318 Poznan, Poland.

Liu, J.K. Inst. Organic Chem., Lanzhou Univ., Lanzhou 730000, China.

Loschiavo, S.R. Agric. Can. Res. Sta., Winnipeg, Man., R3T 2M9, Canada.

Madrid, F.J. Agrobiotech. Int. In., 35 Mount Allison Bay, Winnipeg, Manitoba, Canada R3T 3L4.

Maema, M. Molteno Inst., Univ. Cambridge, Downing St., Cambridge, CB2 3EE, UK.

Malik, M.M. Entomology Division, Nuclear Institute for Agriculture and Biology, PO Box 128, Faisalabad, Pakistan.

Malla-Reddy, V. Istituto G. Donegani S.p.A., Centro Ricerche Novara, 28100 Novara, Italy.

Mani, H.C. Entomology Laboratory, Dept. Zoology, Gorakhpur Univ., Gorakhpur 273001, Uttar Pradesh, India.

Markkula, M. Dept. Pest Investigation, Agric. Res. Centre, SF-3160 Jokioinen, Finland.

Massardo, P. Istituto G. Donegani S.p.A. Centro Ricerche Novara, 28100 Novara, Italy.

Matthews, W.A. ADAS Central Sci. Lab., Ministry of Agric, Fisheries. Food, London Rd., Slough, Berks SL3 7HJ, UK.

Mbata G.N. Department of Zoology, University of Ibadan, Ibadan, Nigeria.

McFarlane, J.A. NRI Grain Technol. Dep., Central Ave., Chatham Maritime, Chatham, Kent ME4 4TB, UK.

McGovern, T.P. Organic Chemical Synthesis Laboratory, Agricultural Environmental Quality, New Delhi 110 012, India.

Meagher, R.L. Dep. Entomol. Kansas State Univ., Manhattan, KS 66506, USA.

Mehta, V.K. Nuclear Research Laboratory, Indian Agricultural Research Institute, New Delhi 110 012, India.

Mehata, V.K. Dep. Zool. Shivaji Coll., New Delhi, 110027, India.

Mietkiewski, R. Agric. and Pedagogical Univ., Ul. Prusa 12, 08110 Siedlce, Poland.

Milander, G. Sopruse pst. 221-79, 200034 Tallinn, Estonia.

Mills, J.T. Agriculture and Agri-Food Canada, Winnipeg Research Centre, 195 Dafoe Rd. Winnipeg, Manitoba, R3T 2M9, Canada.

Mills, K.A. Ministry of Agriculture, Fisheries and Food, Slough Laboratory, Slough, Berks., SL3 7HJ, United Kingdom.

Mironava, T.P. Akademiya Agrarnych Nauk, Minsk, Belarus.

Miyake, T. Shiraoka Res. Sta of Biol. Sci., Nissan Chemical Ind. Ltd., Shiraoka-cho, Minami-Saitama-gun, Saitama 349 02, Japan.

Mkhize, J.N. Univ. Transkei, Private Bag X1001, Umatata, Transkei.

Mohammad-Arshad. Dep. Zool. Univ. Peshawar, N,W,F.P., Pakistan.

Mohiuddin, S. PCSIR Lab Complex, Karachi 75280, Pakistan.

Molinari, G.P. Sez. Chimica del Suolo, Istituto di Chimica Agraria ed Ambientale, Facolta di Agraria, Universita Cattolica Sacro Cuore, Piacenza, Italy.

Mondal, KAMSH. Dep. Zool. Univ. Rajshahi, Rajshahi 6205, Bangladesh.

Moralejo, M.A. Dep. Bioquim., E.T.S. Ingenieros Agronomos, Ciudad Universitaria, 28040 Madrid, Spain.

Morallo-Rejesus, B. Univ. of the Philippines at los Banos, Laguna 3720, Philippines.

Morgan, T.D. U.S. Grain Marketing Res. Lab., ARS USDA, Manhattan, KS66502, USA.

Mori, K. Dep. Agric. Chem., Univ. Tokyo, Yayoi 111, Bunkyo-ku, Tokyo 113, Japan.

Mueller, D.K. Fumigation Service & Supply Inc., Indianapolis, Indiana, USA.

Mukherjee, S.N. Dep. Entomol., Intern. Rice Res. Inst., P.O. Box 933, Manila, Philippines. (Address also: Entomol. Lab., Pune 411008, India).

Mullen, M.A. Stored-Product Insects Res. Dev. Lab., USDA ARS, Savannah GA 31403.

Murphy, P.W. University of Nottingham School of Agriculture, Sutton, Bonington, Loughborough LE12 5RD, UK.

Muslima-Khanam, L.A. BCSIR Lab., Binodpur, Rajshahi, Bangladesh.

Muthu, M. Central Food Technology Research Institute, Mysore 570 013, India.

Mvumi, B.M. Institute of Agricultural Engineering, P.B. Box BW 330, Borrowdale, Harare, Zimbabwe.

Mwenya, W.N.M. Department of Animal Sciences, University of Illinois, Urbana, Illinois 61801, USA.

Nadira-Akhtar. Dept. of Zoology, Rajshahi University, Rajshahi 6205, Bangladesh.

Nagy, L.M. Howard Hughes Med. Inst., Lab. Molecular Biol. Univ. Wis., Madison, WI 53706, USA.

Nakakita, H. Nat'l Food Res. Inst., 2-1-2 Kannondai, Tsukuba-shi, Ibaraki 305, Japan.

Nakamura, F. Department of Medical Biology, School of Medicine, Showa University, 1-5-8 Hatanodai, Shinagawa-ku, Tokyo, 142, Japan.

Nath, R.P. Dep. of Nematol., Rajendra Agric. Univ., Pusa, Samastipur 848125, India.

Nathanson, J.A. Department of Neurology, Harvard Medical School, Neuropharmacology Research Lab., Massachusetts General Hospital, Boston, MA 02114, USA.

Navarro, S. Dept. Stored Products, Agricultural Research Organization, Bet Dagan, Israel.

Nawrot, J. Inst. Organic Chem. Biochem. Czechoslovak Academy Sci., 16610 Prague, Czechoslovakia.

Neelam, V. Div. of Entomology, Indian Agricultural Res. Inst., New Delhi 110 012, India.

Nehra, P. Dept. Zool. University of Rajasthan, Jaipur 302 004, INdia.

Ni, Z.Z. Department of Grain Storage, Nanjing Food Economy College, Nanjing, Jiangsu Province, China.

Nishina, M. Dep. Med. Zool., Saitama Med. Sch., 38 Morohongo Moroyama, Iruma-gun, Saitama 350-04, Japan.

Nomura, T. Fac. Eng., Kyoto Sangyo Univ., Kita, Kyoto 603, Japan.

Novak, M. Biol. Dep., Univ. Winnipeg, Man., Canada R3B 2E9.

Nwana, I.E. Coll. Agric. and Vet. Med., Imo State Univ. P.M.B. 2000, Okingwe, Nigeria.

Obeng-Ofori, D. Dep.Zool. Austin Bldg., Univ. Cambridge, Downing St., Cambridge CB2 3EJ, England.

Odinokov, V.N. Inst. Chem., Bashkir Sci. Cent., Ural Dep. Acad. Sci. Russia, UFA

Ohms, J.P. LUFA Hameln, D3250 Hameln, German Federal Republic

Ohtsubo, Dep. Biol. Sci., Univ. Durham, Sci. Lab., South Rd., Durham, NH1 3LE, UK

Oliberius, J. Vyzkumny Ustav Rostlinne Vyroby, 161 06 Prague 6-Ruzyne, Czechoslovakia.

O'Neill, S.L. Dep. Epidemiology Public Health, Yale Univ. School of Med. P.O. Box 3333, New Haven, Conn 06510.

Onstad, D.W. Sect. of Econ. Entomol., Illinois Nat. Hist. Survey and Univ. of Illinois, 607 E. Peabody Drive, Champaign, Ill. 61820, USA.

Oppert. B. U.S. Grain Marketing Research Lab., ARS USDA, Manhattan, KS 66502, USA.

Pagani, M. Ist. Entomol. Patologia Vegetale, Facolta Agraria, U.C.S.C., Via Emilia Parmense 84, I-29100 Piacenza, Italy.

Paleolog, J. Inst. Biol. Podstaw Prod. Zwierzecej Akad. Rolnicza, Ul. Akad. 13, 20934 Lublin. Poland.

Pandey, G.P. Indian Grain Storage Institute, Hapur 245 101, Uttar Pradesh, India.

Parajulee, M.N. USDA ARS Stored- Prod. Insects Res. Lab., Univ. Wisconsin, Madison, WI 53706.

Parmar, B.S. Division of Agricultural Chemicals, Indian Agricultural Res. Inst., New Delhi, 110012 India.

Pasalu, I.C. Indian Agricultural Research Institute, New Delhi 110 012, India.

Patel, N.H. Dep. Embryol., Carnegie Inst. Washington, 115 West University Parkway, Baltimore, MD 21210.

Pathiratne, A. Dep. Zool. Univ. Kelaniya, Kelaniya, Sri Lanka.

Patourel, G.N.J. Le. Dep. Pure & Appl. Biol., Imperial College, Silwood Park, Ascot, Berks., SL5 7PY, UK.

Patterson, D.L. Department of Animal & Poultry Sci., Guelph University, Ontario N1G 2W1, Canada.

Permual, D. Dept. Biol., Imperial Coll. at Silwood Park, Ascot, Berks. SL5 7PY, England.

Peters, C,S. Graduate Group, Applied Mathematics, Univ California, Davis, Calif., 95616, USA.

Phillips, T.W. USDA ARS, Stored-Product Insect Research Unit, Dep. Entomol., Univ. Wisconsin, Madison, WI53706, USA.

Picollo de Villar, M. Centro de Investigaciones de Plagas e Insecticidas (CIPEIN), CITEFA, CONICET, J. Zufriategui 4380, 1603 Villa Martelli, Argentina.

Pierce, A.M. Dep. Chem., Simon Fraser Univ. Burnaby, BC, V5A 1S6, Canada.

Pierce, R. AR, SEA, USDA, Peoria, Illinois, USA

Pike, V. Nat. REsources Inst., Chatham Maritime, Chatham, Kent ME4 4TB, UK.

Pillai, K.S. Agricultural Entomology, Central Tuber Crops Research Institute, Thiruvananthapuram 695 017, India.

Pinniger, D.B. MAFF Slough Laboratory, Berks., UK.

Plohl, M. Dep. Org. Chem. Biochem., Ruder Boskovic Inst., Bijenicka 54, P.O.Box 1016, 41000 Zagreb, Croatia.

Pracros, P. Lab. Recherches sur les Insectes des Denrees, INRA Station de Zoologie, 33140 Pont de la Maye, Bordeaux, France.

Prakash, A. Central Rice Research Institute, Cuttack 753 006, Orissa, India.

Pray, L.A. Dep. Zool., Univ. Vt., Marsh Life Sci Bldg., Burlington, VT 05405, USA.

Price, N.R. ADAS Cent. Sci. Lab., London Rd. Slough, Berks. SL3 7HJ, UK.

Prus, T. Dep. Eco. Bioeng., Inst. Ecol., Polish Acad. Sci., Dziekanow Lesny, 05-092 Lomianki, Poland.

Rabindra, R.J. Cent. Plant Protection Studies, Tamil Nadu Agric. Univ., Coimbatore, India 641 003.

Rahim, M.A. Food Technol. Div. MARDI, P.O. Box 12301, 50774 Kuala Lampur, Malaysia.

Rai, R.S. Indian Grain Storage Inst., Field Sta., P.A.K. Campus, Punjab Agric. Univ., Ludhiana 141004, India.

Rajak, R.L. Directorate of Plant Protection, Quarantine & Storage, Faridabad, Haryana, India.

Rajendran, S. Infestation Control and Protectants Department, Central Food Technological Institute, Mysore 570 013, India.

Rajendran, S. Div. Infestation Control Pesticides, Central Food Technological Res. Inst., Mysore 570 013, India.

Rakamma, P. Central Tuber Crops Research Institute, Sreekariyam, Trivandrum 695 017, Kerala, India.

Ramachandran, R. Dep. Entomology, International Rice Res. Inst., P.O.Box 933, Manila, Philippines.

Ramos-Elorduy de Conconi, J. Universidad Nacional Autonoma de Mexico, Mexico DF, Mexico.

Ramzan, P.U. DEp. Entomol. Punjab Agric. Univ., Ludhiana, Pakistan.

Rangaswamy, J.R. Infestation Control and Protectants Discipline, Central Food Technological Res. Inst., Mysore 570 013, India.

Rani, P.U. Entomol. Toxicol. Division, Regional Res. Lab., Hyderabad 500 007 India.

Raqib, a. NWFP Agricultural Res. System, ARI, Tarnab, India.

Reidy, G.F. Liver Res. Unit, Dep. Med., Westmead Hosp., Westmead, N.S.W. 2145, Australia.

Rice, P.J. Pesticide Toxicol. Lab., Dep. Entomol., Iowa State Univ., Ames IA 50011.

Rich, S.S. Division of Health Computer Sciences, Medical School, Minnesota University, Minneapolis, MN 55455, USA.

Ricl, P. Za Skolou 470, 254 01 Jilove U Prahy, Czechoslovakia.

Riddle, R.A. Dep. Zool. & Genetics Program, Oregon State Univ., Corvallis, OR 97331, USA.

Risha, E.M., Dep. Economic Entomol., Fac. Agric., Univ. Cairo, Giza, Egypt.

Robinson, T. Dep. Ecol. Evol., 1101, E. 57th St., Univ. Chicago, Chicago IL 60637, USA.

Rodriguez, J.G. Dept of Entomol., University of Kentucky, Lexington, KY 40546-0091.

Rojas Leon, J.C. Dep. Parasitol., Area Cienc. Agron., Univ. Auton. de Chiapas, Villaflores, Chiapas, Mexico.

Roslavtseva, S.A. Res. Inst. Toxicol. Disinfect., Moscow, Russia.

Rostom, Z.M.F. Entomol. Dep. Fac. Sci., Ain Sham Univ., Abbassiah, Cairo, Egypt.

Rowley, J.Q. Storage Department (TSPC), Tropical Products Institute, Slough, SL3 7HL, UK.

Roy, M.K. Indian Agric. Res. Inst., New Delhi 110 012, India.

Rozek, M. Institute of Systematic and Experimental Zoology, Polish Academy of Sciences, 31-016 Krakow, Poland.

Ryan, M.F. Dept. Zool., Univ. College Dublin, Belfield, Dublin 4, Irish Republic.

Sado, E.K. Kainji Lake Res. Inst., PMB 6006, New Bunsa, Kwara State, Nigeria.

Sakal, E. Dep. Biochemistry and Human Nutrition, Fac. Agric., Hebrew Univ. Jerusalem, Rehovot 76100, Israel.

Salama, H.S. Pests Plant Protection Dep., National Res. Centre, Dokki Cairo, Egypt.

Saleem, M.A. Dep. Zoology, Univ. Punjab., Quaidi-i-Azam Campus, Lahore, Pakistan.

Salem, M.M. Department of Plant Protection, College of Agriculture, P.O. Box 2460, Riyadh 11 451 Saudi Arabia.

Samson, P.R. Entomol. Branch, Queensland Dep. Primary Industries, Meiers Rd., Indooroopilly, Qsld. 4068, Au stralia. (Also: Bureau Sugar Exp. Stn., P.O. Box 651, Bundaberg, Queensld. 4670, Australia).

Sandvol, L. Res. and Extension Center, Univ. of Idaho, Aberdeen, ID 83210, USA.

Sanyal, A. D iv. Agric. Chem. Indian agric. Res. Inst., New Delhi 110012, India.

Sarac, A. Akdeniz Univ., Fac. Agric., Plant Protection Dep. PK 126, Antalya, Turkey.

Sarin, K. Dept. Zoology, Rajasthan University, Jaipur 302004, India.

Sarkar, D.K. Division of Agricultural Chemicals, Indian Agricultural Research Inst., New Delhi 12, India.

Sattar,A. Nuclear Inst., Food Agric., Tarnab, Peshawar, Pakistan.

Saxena, B.P. Div. Insect Physiol., Regional Res. Lab., Jammu Taawi 180001, India.

Saxena, S.C. Dep. Zool., Univ. Rajasthan, Jaipur-302004, India

Saxena, V.S. Division Entomology, Indian Agric. Res. Inst., New Delhi, 110012, India.

Schmidt, G.H. Lehrgebiet Zool.- Entomol., Univ. Hannover, D-3000 Hannover 21, Germany.

Seaton, K.A. Div. Horticulture, CSIRO, 306 Carmody Road., St. Lucia, QLD 4067, Australia.

Seck, D. Inst. Senegalais Recherches Agricoles, Lab. Entomol., BP 17 Niomo du Rip, Senegal. (also at Unite de Zoologie Generale et Appliquee, Fac. Sci. Agronomiques Passages des Deportes 2, B-5030, Gembloux, Belgium.

Seifelnasr, Y.E. Dept. Crop Protection, Faculty of Agriculture, Univ. of Khartoum, Shambat, Sudan.

Sener, B. Dep. Pharmacology, Faculty Pharmacy, Gazi Univ., 06630 Anakara, Turkiye.

Sengupta, T., Protozoology Lab., Dep. Zoology, Univ. Kalyani, Kalyani 741235, West Bengal.

Serrano, J.M. Dep. Genetica, Fac. Ciencias Biol., Univ. Complutense, 28040 Madrid, Spain.

Seville, J.R. Cadbury Limited, Bournville, UK.

Shakoori, A.R. Dep. Zool., Univ. Punjab, New Campus, Lahore,-20, Pakistan.

Shanker, S. Indian Grain Storage Inst., Hapur 245 101, India.

Sharma, A. Dept. Zool., Univ. Rajasthan, Jaipur-302004, India.

Sharma, D.K. Division Agric. Chemicals, Indian Agric. Research Inst., New Delhi 110 012, India.

Sharma, D.L. Dep. Physics, Punjab Agricultural Univ., Ludhiana 141004, India.

Shazali, M.E.H. Dep. Pure & Applied Zool., Univ. Rajasthan, Jaipur 302004, India.

Shrivastava, A.P. Defence Materials & Stores Research & Development Establishment., Kanpur-208 013, India.

Shukla, H.S. Dep. of Botany, Univ. of Gorakhpur, Gorakhpur 273 009, India.

Shukla, R.M. Central Insecticides Lab., Directorate Plant Protection, Quarantine Storage, Far Idabad, Haryana, 121 001 India.

Sighamony, S. Entomology Div. Regional Research Lab., Hyderabad 500 009, India.

Sinclair, E.R. Entomology Branch, Department of Primary Industries, Indooroopilly, Queensland 4068, Australia.

Singh, A. Parasite Multiplication Unit 50/20. Ganganagar, Bangalore, India.

Singh, J.P. Dep. Zool., Punjabi Univ., Patiala 147 002, India.

Singh, K. Infestation Control & Pesticides Discipline, Central Food Technol. Res. Inst., Mysore 570 013, India

Singh, R. Dept. Entomol., Sukhadia Univ., Udaipur, India. (also Agric. Res. Station, Naugaon, Alwar, India; also Dept. Entomol. Haryana, Agric. Univ., Hisar 125 004, India).

Singh, R.N. Entomol. Lab., Dep. Zool., Univ., Gorakhpur, Gorakhpur 273 009, Uttar Pradesh, India.

Singh, V. Directorate of Oilseeds Res., Rajendranagar, Hyderabad -500 030, India.

Sinha, K.K. Mycotoxin Lab., Dept. Botany, Bhagalpur Univ., Bhagalpur, 812 007, India.

Sivapragasam, A. Cocoa/Coconut Res. Division, MARDI, P.O. Box 25 36307 Sungai Sunum, Perak, Malaysia.

Smet, H. Aool. Inst., Naamsestraat 59, 3000 Leuven, Belgium.

Smith, L.B. Research Sta., Agriculture Canada, 195 Dafoe Rd., Winnipeg, Man., Canada R3T 2M9.

Soderstrom, E.L. Horticultural Crops Res. Lab., USDA ARS, 2021 South Peach Ave., Fresno, Calif. 93727.

Sokoloff, A., California State University, San Bernardino, California 92407, USA.

Solomon, B. ARS, SEA, USDA, Peoria, Illinois, USA.

Sommer, R.J. Div Biol., Calif. Inst. Technol., Pasadena, CA 91125.

Sonleitner, F.J. Dept Zool., Univ. Oklahoma, Norman, Okla. 73019

Soshkin, D. V. Div. Entomol., K.A. Timiryazev Mosc. Agric. Acad., Moscow, Russia.

Spies, J.J. Dep. Botany Genetics, Univ. Orange Free State, Box 339, Bloemfontein 9300, S. Africa.

Srivastava, J.L. Indian Grain Storage Institute, Hapur 245 101, Uttar Pradesh, India

Srivastava, M.K. Department of Zoology, Allahabad University, Allahabad 211 002, India.

Srivastava, R. C. Dep. Zool. Univ. Allahabad, Allahabad 211 002, India.

Srivastava, R.P. Dep. Entomol., Coll. Agric. G.B. Pant Univ. Agric. and Technol., Pantnagar-263 145, Naintal (U.P.) India.

Srivastava, U.S. Department of Zoology, Allahabad University, Allahabad 211 002, India.

Stahl, E. Pharmakognosie und Analytische Phytochemie, Univ. Saarlandes Facrichtung 15.1, D-6600 Saarbrucken, German Federal Republic.

Stejskal, V. Vyzkumny Ustav Potravinarsky, Radiova 7, CS-102 31 Prague 10, Czech Republic.

Stevens, L. Dep. Zool. Marsh Life Sci. Building, Univ. Vermont, Burlington, Vt. 05405-0086.

Stratil, H. Biologische Bundesanstalt fur Land und Forstwirtschaft, Institut fur Vorratschutz, Koenigin Luise Str. 19, 1000 Berlin 33.

Stuart, J.J. Div. Biol., Kansas State Univ., Manhattan, KS 66506.

Su, H.C.F. Stored Product Insects Res Dev. Lab., ARS, USDA, Savannah, GA 31403.

Subbaraman, A.S. Bio-organic Div., Bhabha Atomic REs. Centre, Trombay, Bombay 400 085, India.

Subramanyam, B. Dep. Entomol., Waters Hall, Kansas State Univ., Manhattan, Kans. 66506. (Also Dep. Entomol., Univ. Minn., St. Paul, Minn. 55108).

Suzuki, T. Inst. Appl. Biochem., Univ. Tsukuba, Tsukuba, Ibaraki 305, Japan.

Svoboda, J.A. Insect Neurobiol. Hormone Lab., Agric. Research Service, Beltsville, USA.

Szafranek, J. Dep. Chem., Univ. Gdansk, Sobieskiego 18, 80-952 Gdansk, Poland.

Szafranski, F. Faculte des Sciences, Universite de Kisangani, BP 1655, Kisangani, Zaire.

Taijing, J. Dep. Parasitol., University of Allahabad, 211 002, India.

Talukder, F.A. Dep. Biol., Univ.7PX Southampton, Bassett Crescent East, Southampton SO16 UK.

Tang, X.J. Southwest Agricultural University, Chongqing, Sichuan, China.

Tautz, D. Zool. Inst., Univ. Munchen, Luisenstr. 14, 80333 Munchen, Germany.

Tawfik, M.F.S. Biol. Control Lab., Dep. Entomology & Pesticides, Fac. Agric., Cairo Univ., Egypt.

Taylor, R.W.D. Trop. Dev. & Res. Inst., Slough, Berks., SL3 7HL, UK.

Thomas, K.P. ADAS Cent. Sci. Lab., Ministry Agric., Fisheries and Food, London Rd., Slough, Berks., UK.

Thomson, M.S. Dep. Biol. Sci., Univ. Wisconsin-Parkside, Kenosha, WI, USA.

Thompson, M. Dept. Entomology, University of Wisconsin-Madison, Madison, WI 53706, USA.

Throne, J.E. USDA ARS, Stored-Product Insects Res. Dev. Lab., 3401 Edwin St., Savannah, GA 31405, USA.

Tigar, B.J. Ministry of Agric. Fisheries Food, ADAS Slough Lab., London Rd., Slough, Berks. SL3 7HJ, UK.

Tilton, E.W. Stored Prod. Res. & Dev. Lab., ARS, USDA, Savannah, GA 31403.

Tiwari, S. C. Dep. Zoology, Univ, Allahabad 211 002, India.

Tomar, S.S. Div. Agri. Chem., Indian Agric. REs. Inst. New Delhi 110 012, India.

Toth, B. Baranya megyei Novenyegeszsegugyi es Talajvedelmi Allomas Pes, Hungary.

Tsuda, Y. Laboratory of Applied Entomology, College of Agriculture, Okayama Univ. Okayama 700, Japan.

Tsvetkov, D. Institut za Zashchita na Rasteniyata, Kostinbrod, Bulgaria.

Tufail, N. Dep. Zool., University Minnesota, St. Paul, Minn. 55108.

Tuzinkevich, A.V. Lab. Mathematical Modelling Ecol. Systems, Inst. Automation Control Process, Far East Dep., USSR Acad. Sci. Vladivostok 690032, Russia.

Trung, V.Q. Infestation Control and Protectants Area. Central Food Technological Res. Inst., Mysore 570 013, India.

Udeaan, A.S. Dep. Entomology, Punjab Agricultural Univ., Ludhiana-141004, India.

Verma, S.B. Dep. Genetics and Anim. Breeding, Bihar Vet. College, Patna, 800 014, India.

Veverka, K. Res. Inst. Plant Prod., Prague-Ruzyne, Czecholovakia.

Via, A. Dep. Entomol. Section Ecol. Systematics, Cornell Univ., Ithaca New York, 14853-0999.

Vijay-Singh. Division of Entomol. Indian Agricultural Research Institute, New Delhi 110 012, India.

Viljoen, J.H. Plant Protection Research Institute, Private Bag X134, Pretoria 0001, South Africa.

Vinuela, E. Unidad de Proteccion de Cultivos, E.T.S.I. Agronomos, Ciudad Univ., E28040, Madrid, Spain.

Vir, S. Central Arid Zone Research Institute, Jodhpur, India.

Visser, N.C. Dep. Bot. Genet., Univ. Orange Free State, P.O. Box 339, Bloemfontein 9300, South Africa.

Wade, M.J. Dep. Ecol. Evolution, Univ. Chicago, Chicago, Ill. 60637.

Wadhwani, K. Mycol. Lab., Bot. Dep. Lucknow University, Lucknow 226 007 India.

Wahid, M. Nuclear Inst. Food and Agric. Tarnab, Peshawar, Pakistan.

Wali-Ur-Rehman. Pakistan Forest Inst., Peshawar, Pakistan.

Walia, S. Div. Agric. Chemicals, Indian Agric. Res. Inst., New Delhi, 110012,INdia.

Walter, C.M. ADAS Cent. Sci. Lab., Ministry of Agric. Fisheries and Food, London Rd., Slough, Berks. SL3 7HJ, UK

Warchalewski, J.R. Akademia Rolnicza, Katedra Biochemii i Analizy Zywnosci, Ul. Mazowiecka 48, 60-623 Posnan, Poland.

Webster, G.R.B. Department of Soil Science, Manitoba University, Winnipeg R3T 2N2, Canada.

Weinzierl, R.A. Office Agric. Entomol., Univ. Ill., Campaign, Ill. 61820.

Whitaker, J.O. Jr. Dep. Life Sci., Indiana State Univ., Terre Haute 47809, Indiana.

White, G.G. Entomolgy Branch, Dep. Primary Industries, Indooroopilly, Queensland 4068, Australia.

White, N.D.G. Agric. Can. Res. Sta., 195 DAfoe Rd., Winnipeg Manitoba R3T 2M9, Canada.

Wicklow, D.T. Natl. Center Agricultural Utilization Resources., USDA ARS, Peoria, IL 61604, USA.

Wilde, G. Dep. Entomol., Kansas State Univ., Manhattan, Kansas 66506.

Wilkin, D.R. Storage Pests Department, MAFF, Slough, Berks. SL3 7HJ, UK

Wilkins, R.M. Dep. Agric. Environ. Sci., King George VI Bldg., Univ., Newcastle upon Tyne, NE1 7RU, UK.

Williams, J.O. Nigerian Stored Products Res. Inst., P.M.B. 3032, Kano, Nigeria.

Williams, L.A.D. Pesticide and Pest Research Group, Faculties of Natural and Medical Sciences, Department of Zoology, University of West Indies, Kingston 7, Jamaica.

Williams, P. Plant Research Inst., Department of Agriculture, Burnley, Victoria 3121, Australia.

Winkelman, D.C. Dep. Genetics, Univ. Alberta, Edmonton, Alta., Canada T6G 2E9.

Winks, R.G. CSIRO, Div. Entomol., GPO Box 1700, Canberra, ACT 2601, Australia.

Wintersteen, W.K. Dep. Entomol., Iowa State University, Ames, Iowa, 50011.

Wohlgemuth, V.R. Biologische Bundesanstalt fur Land- und Forstwirtschaft, Institut fur Vorratsschutz, Koenigin Luise Strasse 19, D-1000 BErlin 33, Germany.

Wong-Corral, F.J. Dep. Investigacion y Posgrado en Alimentos, Universidad de Sonora, Apdo. Postal 1658, Hermosillo, Sonora, Mexico.

Wongo, L.E. Dep. Grain Sci. Industry, Shellenberger Hall, Kansas State Univ., Manhattan Kansas 66506.

Wontner-Smith, T. J. Central Science Laboratory, London Rd., Slough, Berkshire SL3 7HJ, UK.

Wool, D. Dept. Zool., George S. Wise Fac. Life Sci., Tel Aviv University, Israel.

Wright, V.F. Department of Entomology, Kansas State Univ., Manhattan, Kansas 66506, USA.

Xiong, X.Z. Department of Plant Protection, Southwest Agricultural University, Chongqing 630 716, Sichuan, China.

Xu, H.H. Laboratory of Insect Toxicology, South China Agricultural University, China.

Yabe, T. Kanagawa Prefectural Public Health Laboratories, Asahi-ku, Yokohama 241, Japan.

Yadav, T.D. Div. Entomology, Indian Agric. Res. Inst., New Delhi 110 012, India.

Yan, G. Dep. Zool.., Univ. Vermont, Marsh Life Sci Bldg., Burlington, VT 05405-0086. USA. (Address also given as Dep. Animal Health, Biomed Sci., Univ. Wisconsin, 1655 Linden Dr., Madison, WI 53706, USA).

Yoshida, T. Laboratory of Applied Entomology, College of Agriculture, Okayama University, Okayama 700 Japan.

Yucel, A. Dicle Universitesi Ziraat Fakueltesi, Sanliurfa, Turkey.

Zaki, F.N. Dep. Plant Protection, Plant Protection Lab., Natl. Res Centre, Sh.. El Tahir, Dokki, Cairo, Egypt.

Zdarkova, E. Vyzkummy Ustav Potravinarskeho Prumyslu, 150 38 Prague 5, Czechoslovakia.

Zettler, J.L. Stored Product Insects Res. Development Lab., USDA ARS, Savannah, Ga 31403.

Zhang, L. Dep. Anim. Sci., Beijing Agric. Univ., Beijing, 100094, China.

Zirkle, D.F. Dep. Zool., Oregon State Univ., Corvallis, Or 97331, USA.

Zizka, Z. Entomol. Inst., Czechoslovak Acad. of Sci. Prague, Czechoslovakia.

BIBLIOGRAPHY

NOTE: THESE REFERENCES ARE FOR TENEBRIO FOR THE YEARS 1986-1995. THEY HAVE BEEN ARRANGED ACCORDING TO SUBJECT TO CONFORM WITH THE FORMAT EMPLOYED IN THE TIB SINCE ITS INCEPTION IN 1958. FOR ADDRESSES OF THE SENIOR AUTHOR OF THE PAPER, SEE THE PERSONAL DIRECTORY FOLLOWING THE REFERENCES. THE EDITOR HOPES THIS COMPILATION AND ITS FORMAT WILL BE USEFUL TO THE SUBSCRIBERS OF TIB. SUGGESTIONS FOR IMPROVEMENT ARE WELCOME.

A. SOKOLOFF

BIBLIOGRAPHY - TENEBRIO

I. ANATOMY, HISTOLOGY AND MORPHOLOGY.

ALRUBEAI, H.F. and GORELL, T.A. 1985. Histogenic development of the testis in the mealworm beetle, Tenebrio molitor L. (Coleoptera: Tenebrionidae). J. Biol. Sci. Res. 16: 125-136.

ANDRIES, J.C. 1984. The midgut of insects. III. Functions of the mesenteric cell. Annee Biologique 23:167-191.

BREIDBACH, O. 1990. Metamorphic changes in the central projections of hair sensilla in Tenebrio molitor L. (Insecta: Coleoptera).

BREIDBACH, O. 1990. Constant topological organization of the coleopteran metamorphosing nervous system: analysis of persistent elements in the nervous system of Tenebrio molitor. J. of Neurobiology. 21:990-1001.

BREIDBACH, O. 1990. Reorganization of persistent motoneurons in a metamorphosing insect (Tenebrio molitor L., Coleoptera). J. Compar. Neurol. 302:173-196.

BREIDBACH, O. 1991. Constancies in the newronal architecture of the subesophageal ganglion at metamorphosis in the beetle Tenebrio molitor L. Cell and Tissue Res. 266:173-190.

BREIDBACH, O. and MARX, J. 1990. Antennal sensory projections in the central nervous system of the larva of the mealworm Tenebrio molitor L. (Insecta, Coleoptera). Zeitschr. fur Angewandte Zoologie 77:291-310.

BREIDBACH, O. and WEGERHOFF, R. 1994. FMRFamide-like immunoreactive neurons in the brain of the beetle, Tenebrio molitor L. (Coleoptera: Tenebrionidae): constancies and variations in development from the embryo to the adult. Internat'l. J. Insect Morphol. and Embryol. 23"383-404.

KALOGIANNI, E., CONSOULAS, C. and THEOPHILIDIS, G. 1989. Anatomy and innervation of the abdominal segmental muscles in larval and adult Tenebrio molitor (Coleoptera). J. Morphol. 202:271-279.

KUUSIK, A., TARTES, U., HARAK M., HIIESAAR, K. and METSPALU, L. 1994. Developmental changes during metamorphosis in Tenebrio molitor (Coleoptera:Tenebrionidae) studied by calorimetric thermography). European J. Entomol. 91:297-305.

LESCHEN, R.A.B. and Steelman, C.D. 1988. Alphitobius diaperinus (Coleoptera: Tenebrionidae) larva and adult mouthparts. Entomol. News 99: 221-224.

QUENNEDEY, A. and QUENNEDEY, B. 1990. Morphogenesis of the wing analgen in the mealworm beetle Tenebrio molitor during the last larval instar. Tissue and Cell 22: 721-740.

RAHMAN, M.F., HUSSAIN, S. and REZALUR, R. 1990. The larval alimentary canal and Malpighian tubules of Alphitobius diaperinus Panzer (Coleoptera: Tenebrionidae). Bangladesh J. Zool. 18:215-222.

REN, J.C., MA, Y. and CHANG, J.T. 1988. Microscopic observation on the histopathological changes of cuticle induced by diflubenzuron in two insect larvae. Acta Entomol. Sinica 31:366-370.

URBACH, R., BREIDBACH, O. and KUTSCH, W. 1994. Comparative anatomy of muscle sets in larval and adult stages of Zophobas morio (Coleoptera: Tenebrionidae). Zoomorphology 114:47-57.

WET, E.E. de and De Wet, E.E. 1989. Female reproductive system of adult Gonocephalum subcontractum (Gridelli) (Coleoptera: Tenebrionidae). J. Entomol. Soc. S. Africa 52:285-300.

WIGGLESWORTH, V.B. 1991. The distribution of aeriferous tracheae for the ovaries of insects. Tissue and Cell 23:57-65.

WIGGLESWORTH, V.B. 1992. Aeriferous tracheae. J. Insect Morphol. 21: 307-310.

2. BEHAVIOR

ALBERT, P.J., ZACHARUK, R.Y., WEAVER, D.K. and McFARLANE, J.E. 1993. Electrophysiological and behavioural responses to lactic acid stimuli in larvae of Tenebrio molitor L. (Coleoptera: Tenebrionidae) and permeability of antennal sensilla. Physiol. Entomol. 18:329-335.

ALPATO, A.M., RIETVELD, W.J., DRYNTAEVA, L.B. AND PUTILOV, A.A. 1994. Properties of the two-peak free running circadian rhythm of locomotor activity of the sand desert beetle Trigonoscelis gigas Reitt. Biological Rhythm Research 25:153-167.

BARCLAY, R.M.R. and BRIGHAM, R.M. 1994. Constraints on optimal foraging: a field test of prey discrimination by echo locating insectivorous bats. Anim. Behav. 48:1013-1021.

BERENBAUM, M.R., MORENO, B. and GREEN, E. 1992. Soldier bug predation of swallowtail caterpillars (Lepidoptera: Papilionidae): circumvention of defensive chemistry. J. Insect Behav. 5:547-553.

CLAVIER, H. 1994. On Enoplopus dentipes Rossi in Var (Coleoptera: Tenebrionidae). Entomologiste 50:349.

DESPINS, J.L., VAUGHAN, J.A. and TURNER, E.C., Jr. 1988. Role of the lesser mealworm, Alphitobius diaperinus (Panzer) (Coleptera: Tenebrionidae) as a predator of the house fly, Musca domestica L. (Diptera: Muscidae), in poultry houses. Coleopterists Bulletin 42: 211-216.

EVANS, D.L. 1984. Reactions of some adult passerines to Bombus pennsylvanicus and its mimic Mallota bautias. Ibis 126:50-58.

EVANS, D.L. and WALDBAUER, G.P. 1982. Behavior of adult and naive birds when presented with a bumblebee and its mimic. Zeitschrift fur Tierpsychologie 59:247-259.

FALOMO, A.A. 1987. The pheromone biology of the lesser mealworm Alphitobius diaperinus (Panzer) (Coleoptera: Tenebrionidae). Dissertation Abstracts International B, Sciences and Engineering 47:3633-3634.

FORMANOWICZ, D.R. Jr., Ricks, J. and Baptista, C. 1991. Prey availability and the search behaviour of the scorpion Diplocentrus peloncillensis. Ethology, Ecology and Evolution. 3:317-325.

GAGE, M.J.G. 1992. Removal of rival sperm during copulation in a beetle, Tenebrio molitor. Anim. Behav. 44:587-589.

GAGE, M.J.G. and BAKER, R.R. 1991. Ejaculate size varies with socio-sexual situation in an insect. Ecol. Entomol. 16;331-337.

GEDEN, C.J. and AXTELL, R.C. 1987. Factors affecting climbing and tunneling behavior of the lesser mealworm (Coleoptera: Tenebrionidae). J. Econ. Entomol. 80:1197-1204.

GERBER, G.H. and SABOURIN, D.U. 1984. Oviposition site selection in Tenebrio molitor (Coleoptera: Tenebrionidae). Canad. Entomol. 116: 27-39.

HAVUKKALA, I.J. and KENNEDY, J.S. 1984. A programme of self-steered turns as a humidity response in Tenebrio, and the problem of categorizing spatial manoeuvres. Physiol. Entomol. 9:157-164.

HURD, H. and FOGO, S. 1991. Changes induced by Hymenolepis diminuta (Cestoda) in the behavior of the intermediate host Tenebrio molitor (Coleoptera: Canad. J. Zool. 69:2291-2294.

LUTTERSCHMIDT, W.I., MARVIN, G.A. AND HUTCHISON, V.H. 1994. Alarm response by a plethodontid salamander (Desmognathus ochrophaeus): Conspecific and heterospecific "schreckstoff". J. Chem. Ecol. 20:2751-2759.

MARPLES, N.M., BRAKEFIELD, P.M. and COWIE, R.J. 1989. Differences betwwn the 7-spot and 2-spot ladybird beetles (Coccinellidae) in their toxic effects on a bird predator. Ecol. Entomol. 14:79-84.

RASA, O.A.E. 1994. Behavioral adaptations to moisture as an environmental constrain in a nocturnal burrow-inhabiting Kalahari detritivore Parastizopus armaticeps Peringuey (Coleoptera: Tenebrionidae). Koedoe 37:57-66.

S. CARVALHO, R. da, VILELA, E.F., BORGES,M., ZANUNCIO, J.C. and da S. Carvalho, R. 1994. Rhythm of the mating behavior and sexual actihity of Podisus connexivus Bergroth (Heteroptera: Pentatomidae: Asopinae). Anais da Sociedade Entomologica do Brasil 23:197-202.

THRONE, J.E. and CLINE, L.D. 1994. Seasonal flight activity and seasonal abundance of selected stored-product Coleoptera around grain storages in South Carolina. J. Agric. Entomol. 11:321-338.

TYSHCHENKO, V.P., BA, A. SH. and AMADU, SHEIK BA. 1986. The photoperiodic regulation of larval growth and pupation in the large mealworm Tenebrio molitor L. (Coleoptera: Tenebrionidae). Entomologicheskoe Obozrenie 65:3-12.

VARJU, D. 1987. The interaction between visual edge fixation and skototaxis in the mealworm beetle Tenebrio molitor. J.

Comparat. Physiol. A. Sensory, Neural, and Behavioral Physiol. 160:543-552.

WIEDENMANN, R.N. and O'NEIL, R.J.1990. Effects of low rates of predation on selected life-history characteristics of Podisus maculiventris (Say) (Heteroptera: Pentatomidae). Canad. Entomol. 122:271-283.

ZANKER, J.H. and Collett, T.S. 1985. The optometer system on the ground: on the absence of visual control of speed in walking ladybirds. J. Compar. Physiol. A. Sensory, Neural and Behavioral Physiol. 156:395-402.

BIBLIOGRAPHY - TENEBRIO

3. TISSUE CULTURE, EMBRYOLOGY AND DEVELOPMENT

BOUHIN, H., CHARLES, J.P., QUENNEDAEY, B. and DELACHAMBRE, J. 1992. Developmental profiles of epidermal mRNAs during the pupal-adult molt of Tenebrio molitor and isolation of a cDNA clone encoding an adult cuticular protein: effects of a juvenile hormone analogue. Developmental Biol. 149: 112-122.

BREIDBACH, O. 1989. Rate of descending interneurons in the metamorphosing brain of an insect, the beetle Tenebrio molitor L. J. Compar. Neurol. 290:289-309.

BREIDBACH, O., and WEGERHOFF, R. 1994. FMRFamide-like immunoreactive neurons in the brain of the beetle Tenebrio molitor L. (Coleoptera: Tenebrionidae): constancies and variations of development from the embryo to the adult.

CONNAT, J.L., DELBECQUE, J.P., GLITHO, I. and DELACHAMBRE, J. 1991. The onset of metamorphosis in Tenebrio molitor larvae (Insecta, Coleoptera) under grouped, isolated and starved conditions. J. Insect Physiol. 37:653-662.

KUUSIK, A., TARTES, U. HARAK, M., HIISAAR, K. and METSPALU, L. 1994. Developmental changes during metamorphosis in Tenebrio molitor: (Coleoptera: Tenebrionidae) studied by calorimetric thermography. European J. Entomol. 91:297-305.

TARTES, U. and KUUSIK, A. 1994. Periodic muscular activity and its possible functions in the pupae of Tenebrio molitor. Physiol. Entomol. 19: 216-222.

4. CYTOLOGY, EMBRYOLOGY AND ULTRASTRUCTURE

BISOI, M.R. and PATNAIKK, S.C. 1988. A chromosome study of seven species of Indian Coleoptera (Meloidae, Tenebrionidae and Coccinellidae). Caryologia 41:309-321.

BOUHIN, H., CHARLES, J.P., QUENNEDEY, B and DELACHAMBRE J. 1992. Developmental profiles of epidermal mRNAS during the pupal-adult molt of Tenebrio molitor and isolation of a cDNA clone encoding an adult cuticular protein: effects of juvenile hormone analogue. Dev. Biol. 149:112-122.

BREIDBACH, O. 1987. Constancy of ascending projections in the metamorphosing brain of the meal -beetle Tenebrio molitor L. (Insecta: Coleoptera). Roux' Archives Dev. Biol. 196:450-459.

BREIDBACH, O. 1990. Constant topological organization of the coleopteran metamorphosing nervous system: Analysis of persistent elements in the nervous system of Tenebrio molitor. J. Neurobiol. 21:990-1001.

BREIDBACH, O. 1990. Reorganization of persistent motoneurons in a metamorphosing insect (Tenebrio molitor L., Coleoptera). J. Comp. Neurology 302:173-196.

BREIDBACH, O. 1990. Serotonin-immunoreactive brain interneurons persist during metamorphosis of an insect: a developmental study of the brain of Tenebrio (Coleoptera). Cell and Tissue Research 259:345-360.

CONNAT, J.L., DELBECQUE, J.P., GLITHO, I. and DELACHAMBRE, J. 1991. The onset of metamorphosis in Tenebrio molitor larvae (Insects, Coleoptera) under grouped, isolated and starved conditions. J. Insect Physiol. 37:653-662.

DAILEY, P.J. and HAPP, G.M.1982. Morphology of the aedeagal gland of the male mealworm beetle (Tenebrio molitor L.). 1982. J. Morphol. 171:251-281.

DAILEY, G.M. and HAPP, G.M. Cytodifferentiation in the accessory glands of Tenebrio molitor. XI. Transitional cell types during establishment of pattern. J. Morphol. 178:139-154.

FRANCOIS, J., BOUATROUSS, Y., NOIROT-TIMOTHEE, C, TIMOTHEE, C. NOIROT 1988. Role of an anterior ring of histoblasts in the metamorphosis of the midgut in Tenebrio molitor L. (Insecta, Coleoptera). Comptes Rendus de l'Academie des Sciences III. Sciences de la Vie. 307:641-645.

BIBLIOGRAPHY - TENEBRIO

HAPP, G.M. 1987. Accessory gland development in mealworm beetles. Molec. Entomol. Proceedings of a Monsanto-UCLA Symposium held in Steamboat Springs, Colorado, April 6-13, 1986 <edited by Law, J.H.>.433-442; UCLA Symposium on Molecular and Cellular Biology, New Series, vol. 49. New York, USA; Alan Liss, Inc.

HAPP, G.M., and LENOIR-ROUSSEAUX, J.J. 1988. Control points of the cell cycle in a primary in vitro culture under the influence of 20-OH ecdysone of the coleopteran Tenebrio. Comptes Rendus des Seances de la Societe de Biologie et de ses Filiales, France 182:400-408.

HAPP, G.M. 1992. Maturation of the male reproductive system and its endocrine regulation. Ann. Rev. Entomol. 37:303-320.

HAPP, G.M. and HAPP, C.M. 1982. Cytodifferentiation in the accessory glands of Tenebrio molitor. X. Ultrastructure of the tubular gland in the male pupa. J. Morphol. 172:97-112.

JUAN, C. and PETITPIERRE, E. 1989. New chromosomal findings on the Spanish Tenebrionidae (Coleoptera). Caryologia 42:259-266.

JUAN, C., PETITPIERRE, E. and OROMI, P. 1989. Chromosomal analysis on tenebrionids (Coleoptera) from the Canary islands. Cytobios 57:33-41.

JUAN, C., GOSALVEZ, J. and Petitpierre, e. 1990. Improving karyotype analysis: restriction endonuclease banding of Tenebrio molitor chromosomes. Heredity 65:157-162.

JUAN, C., GOSALVEZ, J., MEZZANOTTE, R. and PETITPIERRE, E. 1991. Cytological and biochemical characterization of the in situ endonuclease digestion of fixed Tenebrio molitor chromosomes. Chromosoma 100:432-438.

JUAN, C., and PETITPIERRE, E. 1991. Evolution of genome size in darkling beetles (Tenebrionidae, Coleoptera). Genome 34:169-173.

KUUSIK, A., TARTES, U., HARAK, M. HIIESAAR, K. and METSPALU, L. 1994. Developmental changes during metamorphosis in Tenebrio molitor (Coleoptera: Tenebrionidae). European J. Entomol. 91:297-305.

NOBLE-NESBITT, J. 1990. Cellular differentiation in relation to water vapor absorption in the rectal complex of the mealworm Tenebrio molitor. Tissue and Cell 22:925-940.

QUENNEDEY, A., and QUENNEDEY, B. 1990. Morphogenesis of the wing anlagen in the mealworm beetle Tenebrio molitor during the last larval instar. Tissue and Cell 22:721-740.

BIBLIOGRAPHY - TENEBRIO

QUENNEDEY, A., ARIBI, N., EVERAERTS, C and DELBECQUE, J.P. 1995. Postembryonic development of Zophobas atratus Fab. (Coleoptera: Tenebrionidae) under crowded or isolated conditions and effects of juvenile hormone analogue applications. J. Insect Physiol. 41:143-152.

TANO, Y., FRANCOIS, J., NOIROT-TIMOTHEE, C. 1987. Metamorphosis of the fore gut and mid gut in Tenebrio molitor L. (Insecta, Coleoptera). Canad. J. Zool. 65:1923-1934.

TANO, Y., FRANCOIS, J. and NOIROT-TIMOTHEE, C. 1988. Effects of a juvenile hormone analogue on the metamorphic changes of the foregut and midgut in Tenebrio molitor L. (Insecta, Coleoptera). Canad. J. Zool. 66:421-426.

WOLF, K.W. 1994. Immunologicalization of acetylated microtubules in germ cells of insects. NATO-ASI ser, Ser. H Cell Biol. 84:533-538.

5. ECOLOGY AND POPULATION BIOLOGY

ARBOGAST, R.T. and MULLEN, M.A. 1988. Insect succession in a stored-corn ecosystem in southeast Georgia. Annals Entomol. Soc. Amer. 81:899-912.

AXTELL, R.C. and ARENDS, J.J. 1990. Ecology and management of arthropod pests of poultry. Ann. Rev. Entomol. 35: 101-126.

BERTI-FILHO, E., COSTA, V.A. and AAGEESEN, T.L. 1989. Occurrence of natural enemies of Musca domestica L. (Diptera: Muscidae) in poultry areas of Bastos, State of Sao Paulo, Brazil. Revista de Agricultura Piracicaba 64: 98.

BRAACK, L.E.O. 1989. Arthropod inhabitants of a tropical cave 'island' environment provisiond by bats. Biol. Conservation 46:77-84.

CAMMAERTS, R., CAMMAERTS, M.C. and DETRAIN, C. 1988. Response of the myrmecophilous beetles Edaphopaussus favieri (Carabidae: Paussinae) and Dichillus minutus (Tenebrionidae) to the trail of their host, Pheidole pallida. Actes de Colloques Insectes Sociaux 1988. 5:199-206.

COHN J. and CHRISTENSON, T.E. 1987. Utilization of resources by the male golden orb-weaving spider Nephila clavipes (Araneae). J. of Arachnology 15:185-192.

CONNER, J. 1989. Density-dependent sexual selection in the fungus beetle Bolitotherus cornutus. Evolution 43:1378-1386.

CRAVEDI, P., FOGLIAZZA, D., PETROLINI, B. and QUARONI, S. 1993. Insects and moulds of mills. Tecnica Molitoria 44:649-661.

DEJEAN, A. 1988. Prey capture by Camponotus maculatus (Formicidae - Formicinae). Biology of Behaviour 13:97-115.

DESPINS, J.L., TURNER, E.C., Jr. and RUSZLER, P.L. 1989. Effects of poultry manure moisture and poultry house construction materials on the movements of the lesser mealworm, Alphitobius diaperinus (Panzer) (Coleoptera: Tenebrionidae), a structural insect pest in high rise caged layer houses. Poultry Sci. 68:1326-133.

DETTNER, K. 1993. Dabbing and shooting of benzo- and naphthoquinone secretions: Defensive strategies of bark-inhabiting aleocharine (Col.: Staphylinidae) and tenebrionid (Col.: Tenebrionidae) beetle larvae. J. Chemical Ecol. 19:1337-1354.

DIETZ, B.H. and BRANDAO C.R.F. 1993. Hunting behavior and diet of Acanthognathus rudis Brown & Kempf, with comments on the evolution of predation in DÆcetini (Hymenoptera: Formicidae: Myrmicinae). Revista Brasileira de Entomologia 37:683-692.

DYUSEMBAEV, E.B. and ALIKHANOV, SH. A. 1987. On phoresy of soil-inhabiting mites on insects in central Kazakhstan, USSR. Izvestiya Akademii Nauk Kazakhskoi SSR. Seriya Biologicheskaya 6:83-85.

GAGE., M.J.G. and BAKER, R.R. 1991. Ejaculate size varies with socio-sexual situation in an insect. Ecol. Entomol. 16:331-337.

GAUTAM, R.D. 1989. Exploration of lesser meal worm for the control of storage insects together with its stages and effect on seed viability. Agric. Situation in India. 64:487-489.

GEDEN, C.J. 1990 Coleopteran and acarine predators of house fly immatures in poultry production systems. Biocontrol of arthropods affecting livestock and poultry <edited by Rutz, D.A. and PATTERSON, R.S.> 1990. 177-200. Boulder, Colorado, USA; Westview Press, Inc.

GIRARD, C. and LAMOTTE, M. 1990. Entomofauna of the dead termitaria of Macrotermes. Bulletin de la Societe Zoologique de France 115: 355-366.

GANGOPADHYAY, A.K. and CHATTERJEE, N.B. 1989. Effect of temperature and moisture content of the stored rice grain on the egg laying, hatching and post-embryonic development of the lesser mealworm, Alphitobius diaperinus (Panzer). Indian Agriculturist. 33:115-124.

HASTINGS, A. and COSTANTINO, R.F. 1987. Cannibalistic egg-larva interactions in Tribolium: an explanation for the oscillations in population numbers. Amer. Nat. 130:36-52.

HETHERINGTON, T.E. 1989. Use of vibratory cues for detection of insect prey by the sandswimming lizard Scincus scincus. Anim. Behavior. 37:290-297.

HEWADIKARAM, K.A. and GOFF, M.L. 1991. Effect of carcass size on rate of decomposition and arthropod succession patterns. American J. Forensic Med. and Pathology 12:235-240.

HOGAN, G.R. and RAZNIAK, H.G.1991. Selenium-induced mortality and tissue distribution studies in Tenebrio molitor (Coleoptera: Tenebrionidae). Environmental Entomol. 20:790-794.

BIBLIOGRAPHY - TENEBRIO

HULLEY, P.E. and PFLEIDERER;, M. 1988. The Coleoptera in poultry manure - potential predators of house flies, Musca domestica Linnaeus (Diptera: Muscidae). J. Entomol. Soc. South Africa 51:17-29.

JAMES, D.G. 1994. Prey consumption by Pristhesancus plagipennis Walker (hemiptera: Reduviidae) during development. Australian Entomologist 21:43-48.

KAUSHAL, B.R., and VATS, L.K. 1987. Population density, biomass and secondary net production of coleopterans in a tropical grassland. Entomon. 12:161-165.

KOTAKI, T. and FUJII, H. 1995. Crowding inhimbits pupation in Tribolium freemani: contact chemical and mechanical stimuli are involved. Entomologia Experimentalis et Applicata 74: 145-149.

LOUDON, C. 1988. Development of Tenebrio molitor in low oxygen levels. J. Insect Physiol. 34:97-103.

MANOJLOVIC, B. 1987. Contribution to the study of the influence of adult food and climatic factors on the dynamics of oviposition and embryonic development of the greater mealworm Tenebrio molitor L. (Coleoptera: Tenebrionidae). Zastita Bilja 38:337-348.

MARCUZZI, G. 1993. A contribution to zoogeography and ecology of dalmatian coleopterous insects. Biologia Gallo-Helenica 20:213-221.

MARSHALL, L.D. 1985. Seasonal patterns of reproduction in two species of desert beetles (Coleoptera: Tenebrionidae). Florida Entomol. 68:621-627.

MCALLISTER, C.T. 1987. Ingestion of spinose ear ticks, Otobius megnini (Acari: Argasidae) by a Texas spotted whiptail, Cnemidophorus gularis gularis (Sauria, Teiidae). Southwestern Naturalist 32: 511-512.

MONTEITH, G.B. 1985. Altitudinal transect studies at Cape Tribulation, north Queensland VII. Coleoptera and Hemiptera (Insecta). Queensland Naturalist 26: 70-80.

MURRAY, D.A.H. and WICKS, R. 1990. Injury levels for soil-dwelling insects in sunflower in the Central Highland of Queensland. Australian J. Exp. Agric. 30: 669-674.

NICOLSON, S.W. 1991, Diuresis or clearance: is there a physiological role for the "diuretic hormone" of the desert beetle Inynacrus? J. Insect Physiol 37:447-452.

O'NEIL, R.J. and WIEDEMANN, R.N. 1990. Body weight of Podisus maculiventris (Say) under various feeding regimens. Canad. Entomol. 122:285-294.

PARAJULEE, M.N., PHILLIPS, T.W. and HOGG, D.B. 1994. Functional response of Lyctocoris campestris (F.) adults: Effects of predator sex, prey species, and experimental habitat. Biol. Control. 4:80-87

PARMENTER, R.R., PARMENTER, C.A. and CHENEY, C.D.1989. Factors influencing microhabitat partitioning among coexisting species of arid-land darkling beetles (Tenebrionid): behavioral responses to vegetation architecture. Southwestern Naturalist 34:319-329.

PARMENTER, R.R., PARMENTER, C.A. and CHENEY, C.D. 1989. Factors influencing microhabitat partitioning in arid-land darkling beetles (Tenebrionidae): Temperature and water conservation. J. Arid Environments. 17:57-67.

QUINN, M.A., KEPNER, R.L., WALGENBACH, D.D., FOSTER, R.N., BOHLS, R.A., POOLER, P.D.,, REUTER, K.C. and SWAIN, J.L. 1990. Effect of habitat and perturbation on populations and community structure of darkling beetles (Coleoptera: Tenebrionidae) on mixed-grass rangeland. Environmental Entomol. 19:1746-1755.

ROBERTS, C.S., SEELY, M.K., MITCHELL, W.K. and CAMPBELL, J.D.1991. Body temperatures of Namib Desert tenebrionid beetles: their relationship in laboratory and field. Physiol. Entomol. 16:462-475.

ROBERTSON, L.N. and SIMPSON, G.B. 1988. Sampling and dispersion of Pterohelaeus alternatus Pascoe and Gonocephalum macleayi (Blackburn) (Coleoptera: Tenebrionidae) larvae in soil. Queensland J. Agric. And Animal Sci. 45:189-193.

ROJAS, P. 1988. Note on a population of Bycrea villosa Pascoe (Coleoptera: Tenebrionidae) in the debris of Atta mexicana (F. Smith) (Hymenoptera: Formicidae). Folia Entomologica Mexicana 76:37-43.

SABIROVA, O.R. 1987. Characteristics of distribution of soil-dwelling tenebrionid larvae. Problems of Desert Development. 3:90-92. Translated from Problemy Osvoeniya Pustyn 3, pp. 78-79.

SCHMITZ, M and WOHLGEMUTH, R. 1988. Investigations on mass increase and behavior of Alphitobius diaperinus Panz. (Coleoptera: Tenebrionidae) in poultry houses as a basis for directed control in practice. Anz. fur Schadlingskunde, Pflanzenschutz, Umweltschutz 61:108-114.

BIBLIOGRAPHY - TENEBRIO

STRBAC, P. 1985. Coleoptera populations under the agroecological conditions of Slavonia and Baranja. Znanost i Praksa u Poljopreverdi i prehrambenoj Tehnologiji. 15:189-212.

TAWFIK, M.F.S., AWADALLAH, KT., EL HUSSEINI, M.M., IBRAHIM, A.M.A. 1986. Effect of temperature and relative humidity on the biocycle of Xylocoris sordidus (Reuter (Anthocoridae, Hemiptera). Archiv. fur Phytopathologie und Pflanzenschutz 22:119-129.

THEISS, S. and HEIMBACH,U. 1993. Feeding experiments with carabid larvae, a contribution to the understanding of their biology. Mitteilungen der Deutschen Gesellschaft fur Allgemeine und Angewandte Entomologie 8:841-847.

TSCHINKEL, W.R. 1993. Crowding, maternal age, age at pupation, and life history of Zophobas atratus (Coleoptera: Tenebrionidae).Annals Entomol. Soc. America 86:278-297.

WARD, D. 1991. A test of the 'maxithermy hypothesis with three species of tenebrionid beetles. J. Arid Environments 21:331-336.

WEAVER, D.K. and MCFARLANE, J.E. 1990. The effect of larval density on growth and development of Tenebrio molitor. J. Insect Physiol. 36:53

ZANUNCIO, J.C., LEITE, J.E.H., ALVES, J.B. and SANTOS, G.P. 1993 (1994). Nymph period duration of the predator Podisus connexivus (Hemiptera: Pentatomidae), in three alternative preys. Revista Brasileira de Zoologia 10:327-332.

ZANUNCIO, T.V., ZANUNCIO, J.C., OLIVEIRA, G.C.G. de, SARTORIO, R.C., DE OLIVEIRA, G.C.G. 1993. Influence of population density on laboratory rearing of nymphs of Podisus connexivus Bergroth, 1891 (Hemiptera: Pentatomidae). REvista Ceres 40:94-103.

ZHEN, C.S. 1988. A study on Adosomus sp. Insect Knowledge 25:162-164

6. GENERAL

BERNSTEIN, D.I., GALLAGHER, J.S. and BERNSTEIN, I.L. 1983. Mealworm asthma: clinical and immunological studies. J. of Allergy and Clinical Immunology 72:475-480.

CHANG, Z.H., HANSEN, T.N. and BAULST, J.G. 1991. The effect of antifreeze protein on the devitrification of a cryoprotective system. Cryo-Lett. Cambridge.: The Journal 12:215-226.

CIDARIA, D., CAPPAI, A., VALLESI, A, CAPRIOLI, V. and PIRALLI, G. 1991. A novel strain of Bacillus thuringiensis (NCIMB 40152) active against coleopteran insects. FEMS-Microbiology Letters 81:129-134.

COLOMBINI, I., CHELAZZI, L., FALLACCI, M. and PALESSE, L. 1994. Zonation and surface activity of some tenebrionid beetles living on a mediterranean sandy beach. J. arid Environ. 28:215-230.

DACANAY, A.A. and CERVANCIA, C.R. 1989. Biology of Palembus (Martianus) dermestoides Chevrolat (Coleoptera: Tenebrionidae). Philippine Entomol. 7:471-477.

GADEN, G. and KELLNER, R. 1992. Primary structures of the hypertrehalosemic peptides from corpora cardiaca of the primitive cockroack Polyphage aegyptiana. General and Comparative Endocrinol. 86:119-127.

GUTIERREZ, C., SANCHEZ-MONGE, R., GOMEZ, L., RUIZ-TAPIADOR, M., CASTANERA, P., and SALCEDO, G. 1990. alpha-amylase activities of agricultural insect pests are specifically affected by different inhibitor preparations from wheat and barley endosperms. Plant Sci. Limerick 72:37-44.

HONDA, H. and OHSAWA, K. 1990. Chemical ecology for stored products insects. J. Pesticide Sci. 15:263-270.

KAGEN, S.L. 1990. Inhalant allergy to arthropods: insects, arachnids, and crustaceans. Clinical Reviews- Allergy 8:99-125.

KLEESPIES, R., BATHON, H. and ZIMMERMANN, G. 1989. Investigations on the natural occurrence of entomopathogenic fungi and nematodes in different soils in the surroundings of Darmstadt. Gesunde Pflanzen 41:350-355.

LEE, R.E. Jr., STRONG-GUNDERSON, J.M., LEE, M.R. and DAVIDSON, E.C. 1992. Ice-nucleating active bacteria decrease the cold-hardiness of stored grain insects. J. econ Entomol. 85:371-374.

LI, R.S., DAI, S.Y. and LI, X.G. 1990. Survey of Bacillus thuringiensis and B. spharicus from soil samples of four provinces in China and their principal biological properties. Acta Microbiologica Sinica 30:380-388.

LUO, S.B., ZHANG, Y.B. and YAN, J.P. 1991. A biological and toxicological study on a new Bacillus thuringiensis strain. Chinese J. Biol. Control 7:24-26.

MENDEL, Z., PODOLER, H. and LIVNE, H. 1990.Interactions between Aulonium aruficorne (Coleoptera: Colydiidae) and other natural enemies of bark beetles (Coleoptera: Scolytidae). Entomophaga 35:99-105.

MORALEJO, M, GARCIA-CASADO, G., SANCHEZ-MONGE, R., LOPEZ-OTIN, C., MOLINA-CANO, J.L., ROMAGOSA, I, and SALCEDO, G. 1993. Barley tetrameric inhibitor of insect alpha amylases. Characterization of an allelic variant of the BTAI-CMb subunit. J. Cereal Sci. 17: 107-113.

PARADISE, C.J. and STAMP, N.E. 1990. Variable quantities of toxic diet cause different degrees of compensatory and inhibitory responses by juvenile praying mantids. Entomologia Experimentalis et Applicata 55:213-222.

SCHROECKENSTEIN, D.C., MEIER-DAVIS, S, BUSH, R.K. 1990. Occupational sensitivity to Tenebrio molitor Linnaeus (yellow mealworm). J. of Allergy and Clinical Immunology 86:182-188.

SOLER, J.J. and SOLER, M. 1993. Diet of the red-billed chough Pyrrhocorax pyrrhocorax in south east Spain. Bird Study 40:216-222.

SRAMOVA, H., DANIEL, M., ABSOLONOVA, V., DEDICOVA, D., JEDLICKOVA, Z., LHOTOVA, H., PETRAS, P., PDZIMKOVA, M. and SUBERTOVA, V. 1992. Bacterial contamination of arthropods in health institutions. Ceskoslovenska Epidemiologie, Microbiologie, Imunolgie 41:223-232.

VANNINEN, I. HUSBERG, G.B. and HOKKANEN, M.T. 1989. Ocurrence of entomopathogenic fungi and entomoparasitic nematodes in cultivated soils in Finland. Acta Entomologica Finnica 53:65-71.

WILSON, M.J., GLEN, D.M., HUGHES, L.A., PEARCE, J.D. and RODGERS, P.B. 1994. Laboratory tests of the potential of entomopathogenic nematodes for the control of field slugs (Deroceras reticulatum). J. Invertebr. Pathol. 64:82-187.

7. GENETICS, POPULATION GENETICS & MOLECULAR GENETICS

BOUHIN, H., CHARLES, J.P. QUENNEDEY, B., COURRENT, A., and DELACHAMBRE, J. 1992. Characterization of a cDNA clone encoding a glycine-rich cuticular protein of Tenebrio molitor: developmental expression and effect of a juvenile hormone analogue. Insect Molec. Biol. 1:53-62.

CANO, R.J., POINAR, H.N., PIENIAZEK, N.J., ACRA, A. and POINAR, J.O. Jr. 1993. Amplification and sequencing of DNA from a 120-135 million year old weevil. Nature (London) 363:536-538.

CHARLES, J.P. BOUHIN,H., QUENNEDEY, B., COURRENT, A. DELACHAMBRE, J. 1992. cDNA cloning and deduced amino acid sequence of a major, glycine-rich cuticular protein from the coleopteran Tenebrio molitor. Temporal and spatial distribution of the transcript during metamorphosis. European J. Biochem. 206: 813-819.

CONNER, J. 1988. Field measurements of natural and sexual selection in the fungus beetle, Bolitotherus cornutus. Evolution 42:736-749.

DAVIS, C.A. and WYATT, G.R. 1989. Distribution sequence homogeneity of an abudant satellite DNA in the beetle, Tenebrio molitor. Nucleic Acids Research 17:557-558.

DE PONTI, O. (CONVENOR). 1984. Working Group WPRS/EUCARPIA 'Breeding for Resistance to Insects and Mites', 3rd Meeting, Capbreton, France, 6-9 April, 1983. Bull. SROP 7: 4, 82pp.

GARCIA-CASADO, G., SANCHEZ-MONGE, R., LOPEZ-OTIN, C., and SALCEDO, G. 1994. Rye chromosome arm 3RS encodes a homodimeric inhibitor of insect alph-amylase. Theoret. Appl. Genet. 89: 60-63.

GRIFFIN, C.T. and DOWNES, M.J. 1994. Selection of Heterorhabditis sp. for improved infectivity at low temperature. Genetics of entomopathogenic nematode-bacterium complexes. Proceedings and National Reports 1990-1993. St. Patrick's College, Maynooth, Co. Kildare, Ireland. 1994, No. 143-151; Proceedings of a Symposium and Workshops held at St. Patric's College, Maynooth, Co. Kildare, Ireland on Oct. 23-27 1993.

HENDRICKS, L., de BAERE, R., van BROECKHOVEN C. and de WACHTER, R. 1988. Primary and secondary structure of the 18-S ribosomal RNA of the insect species Tenebrio molitor: some consideration on the secondary structure model for eukaryotic small-subunit ribosomal RNA. Archives Internationales de Physiologie et de Biochimie 96:96.

HENDRICKS, L., de BAERE, R., van BROECKHOVEN, C. and de WACHTER, R. 1988. Primary and secondary structure of the 18-S ribosomal RNA of the insect species Tenebrio molitor. FEBS Letters 232:115-120.

JUAN, C and GOSALVEZ, J. 1994. Direct incorporation of fluorescein-12 dUTP to insect fixed chromosomes by random primed extension. Genome 37:173-175.

JUAN, C. and PETITPIERRE, E. 1991. Evolution of genome size in darkling beetles (Tenebrionidae, Coleoptera). Genome 34:169-173.

JUAN, C. and PETITPIERRE, E. 1989. C-banding and DNA content in seven species of Tenebrionidae (Coleoptera). Genome 32:834-839.

JUAN, C., VAZQUEZ, P. RUBIO, J.M., PETITPIERRE, E. and HEWITT, G.M. 1993. Presence of highly repetitive DNA sequences in Tribolium flour beetles. Heredity 70:1-8.

PAESEN, G.C. and HAPP, G.M. 1994. cDNA-interred amino-acid sequence of a C protein, a heparin-binding, basic secretion product of the tubular accessory sex glands of the mealworm beetle, Tenebrio molitor. Insect Biochem. and Molec. Biol. 24:21-27.

PAESEN, G.C. and HAPP, G.M. 1995. The B proteins secreted by the tubular accessory sex glands of the male mealworm beetle, Tenebrio molitor, have sequece similarity to moth pheromone-binding proteins. Insect Biochem. and Molec. Biol. 25:401-408.

PETITPIERRE, E., GATEWOOD, J.M. and SCHMID, C.W.. 1988. Satellite DNA from the beetle Tenebrio molitor. Experientia 44:498-499.

PLOHL, M., LUCIJANIC-JUSTIC, V., UGARKOVIC, D. PETITPIERRE, E. and JUAN, C. 1993. Satellite DNA and heterochromatin of the flour beetle Tribolium confusum. Genome 36:467-475.

PLOHL, M. and UGARKOVIC, D. 1994. Analysis of divergence of Alphitobius diaperinus satellite DNA: Roles of recombination, replication slippage and gene conversion. Molecular and General Genetics 242:297-304.

PLOHL, M., BORSTNIK, B., UGARKOVIC, D. and GAMULIN, V.1990. Sequence-induced curvature of Tenebrio molitor satellite DNA. Biochimie 72:665-670.

PLOHL, M., BORSTNIK, B., LUCIJANIC-JUSTIC, V. and UGARKOVIC, D. 1992. Evidence for random distribution of sequence variants in Tenebrio molitor satellite DNA. Genet. REs. 60:7-13.

PLOHL, M. and UGARKOVIC, D. 1994. Characterization of two abundant satellite DNAs from the mealworm Tenebrio obscurus. J. mol. evol. 39:489-495.

PUNZO, F. and MALATESTA, R.J. 1988. Brain RNA synthesis and the retention of learning through metamorphosis in Tenebrio obscurus (Insecta: Coleoptera).Comptes Rendus de l'Academie des Sciences III. Sciences de la Vie. 307: 641-645.

SOLTANI-MAZOUNI, N. and SOLTANI, M. 1994. Diflubenzuron affected DNA synthesis in the ovaries of Tenebrio molitor. Invertebrate Reprod. and Devel. 25:19-21.

UGARKOVIC, D., PLOHL, M. and Gamulin, V. 1989. Sequence variability of satellite DNA from the mealworm Tenebrio molitor. Gene 83:181-183.

WEGERHOFF, R. and BREIDBACH, O. 1992. Structure and development of the larval central complex in a holometabolous insect, the beetle Tenebrio molitor. Cell and Tissue Res. 268: 341-358.

ZELASNY, B., STEPHAN, D. and HAMACHER, J. 1994. Irregular crystal formation in some isolates of Bacillus thuringiensis. J. Invert. Pathol.

3. INSECTICIDES AND INSECTICIDE RESISTANCE

ABIVARDI, C., and Benz., G. 1984. New observations on camphor - an old insect repellent - as a relatively safe candidate fumigant against nine insect species. Mitteilungen der Schweizerischen Entomologischen Gesellschaft 57:179-187.

ARNDO, C. and ARZONE, A. 1992. Action of clofentezine, cyromazine, diflubenzuron, fenoxycarb, sesamex and teflubenzuron on Tenebrio molitor and Galleria mellonella. Annali della Facolta di Scienze Agrarie della Universita degli Studi di Torino. 16:177-191; Ba..

AUDAS, A., HOGAN, G.R. and RAZNIAK, H. 1995. Incubation temperature as a modifying factor on survival of Tenebrio molitor reared in selenium-containing media. J. Toxicol. and Environ. Health. 44-115-122.

BERGER, H.K. 1989. Stored products pests also occur in the household. Pflanzenschutz Wien. 1989 1, 2-4.

CARROLL, J., LI, J . and Ellar, D.J. 1989. Proteolytic processing of a coleopteran-specific delta-endotoxin produced by Bacillus thuringiensis var. tenebrionis. Biochem. J. 261:99-105.

CHIALCOTT, C.N. and WIGLEY, P.J. 1993. Isolation and toxicity of Bacillus thuringiensis from soil and insect habitats in New Zealand. J. Invert. Pathol. 61:244-247.

DIBS, S. and KLINGAUF. F. 1983. Laboratory experiments on the effect of incense on some stored-product pests. Zeitschrift fur Angewandte Entomologie 96:448-451.

DRINKWATER, T.W. 1992. Laboratory evaluation of insecticide baits for control of the dusty surface beetle, Gonocephalum simplex F. (Coleoptera: Tenebrionidae). Crop Protection 11:380-384.

DRINKWATER, T.W., GILIOMEE, J.H. and PRINGLE, K.L. 1989. Laboratory trials on the systemic activity of insecticides against false wireworms, Somaticus species (Coleoptera: Tenebrionidae), attacking maize. Phytophylactica 21:275-278.

DRINKWATER, T.W., GILIOMEE, J.H. and PRINGLE, K.L. 1990. Efficacy of soil-applied and seed dressing insecticides for the control of false wireworms Somaticus species (Coleoptera: Tenebrionidae), in maize. Crop Protection 9:128-131.

EGAAS, E., SKAARE, J.U., GOKSOYR, A., SVENDSEN, N.O. and Kobro, s. 1992. Effects of the insecticide Thiodan 35 (endosulfan) on xenobiotic metabolizing enzymes from midgut

and gut-free tissues of some coleopteran larvae. Comp. Biochem. Physiol. C. Comp. Pharmacol. Toxicol. 102:385-389.

ENRIZ, R.D., BALDONI, H.A., JAUREGUI, E.A., SOSA, M.E., TONN, C.E. and GIORDANO, O.S. 1994. Structure-activity relationship of clerodane diterpenoids acting as antifeedant agents. J. Agric. Food Chem. 42:2958-2963.

FISHER, S.W. 1992. Joint action between binary mixtures of chlordimeform and insecticides. Ecotoxicol. Environ. Saf. 23:11-21.

FUKAMI, J.I., HIDOH, O. and IZAWA, N. 1991. Comparative studies on insect glutamate receptors by several toxicants.Rev. Pestic. Toxicol.0 1991:209-217.

GOMEZ, L., SANCHEZ-MONGE, R., GARCIA-OLMEDO, F., and SALCEDO, G. 1989. Wheat tetrameric inhibitors of insect alpha-amylase: alloploid heterosis at the molecular level. Proc. Natl. Acad. Sci. USA 86:3242-3246.

GOMEZ, L., SANCHEZ-MONGE, R., LOPEZ-OTIN, C. and SALCEDO, G. 1991. Wheat inhibitors of heterologous alpha-amylases. Characterization of major components from the monomeric class. Plant Physiol. 96:768-774.

GONG, G.J., WANG, YC. and YOU, Z.P. 1988. Effects of diflubenzuron on internal organs and tissues in black cutworm, armyworm and yellow mealworm. Acta Entomologica Sinica 31:358-363.

GREGORY, D.A., JOHNSON, D.L. and THOMPSON, B.H. 1994. The toxicity of bran baits, formulated with carbaryl, chlorpyrifos and dimethoate, on yellow mealworm, (Tenebrio molitor L.). J. Agric. Entomol. 11:85-94.

HOGAN, G.R. and RAZNIAK, M.G. 1991. Selenium-induced mortality and tissue distribution studies in Tenebrio molitor (Coleoptera: Tenebrionidae). Environmental Entomol. 20:790-794.

HOKKANEN, H.M.T. and KOTILUOTO, R. 1992. Bioassay of the side-effects of pesticides on Beauveria bassiana and Metarhizium anisopliae: standardized sequential testing procedure. Bulletin OILB-SROP. 15:148-151.

HONDA, H. and OHSAWA, K. 1990. Chemical ecology for stored products insects. 1990. J. Pesticide SCi. 15:263-270.

HORNUNG, B. 1991. The importance of mealworm larvae (Tenebrio molitor, L. 1758) as carriers of zearalenone when fed to insectivorous birds and other pet animals. 1991, 81pp.

BIBLIOGRAPHY - TENEBRIO

KLEIN, M. and PURCELL, A.H. 1967. Response of Galleria mellonella (Lepidoptera: Pyralidae) and Tenebrio molitor (Coleoptera: Tenebrionidae) to Spiroplasma citri inoculation. J. Invert. Pathol. 50:9-15.

LOHAR, M.K. and WRIGHT, D.J. 1990. Indirect effect of malathion (LD5) on haemolymph carbohydrate concentration in Tenebrio molitor L. adults (Coleoptera: Tenebrionidae). Pakistan J. Zool. 22:9-13.

LOHAR, M.K. and WRIGHT, D.J. 1991. Effect of topical application of malathion on haemolymph volume of female Tenebrio molitor L. (Coleoptera: Tenebrionidae). Pakistan J. Zool. 23:119-121.

LOHAR, M.K. and WRIGHT, D.J. 1993. Sub-lethal effects of malathion on the oxygen consumption and heart beat of female, Tenebrio molitor (Coleoptera: Tenebrionidae). Pakistan J. Zool. 24:115-117.

LUCO, J.M. SOSA, M.E., CESCO, J.C., TONN, C.E. and GIORDANO, O.S. 1994. Molecular connectivity and hydrophobicity in the study of antifeedant activity of clerodane diterpenoids. Pestic. Sci. 41:1-6.

MARCO, M.P., PASCUAL, N., BELLES, X., CAMPS, AF., and MESSEGUER, A. 1990. Ecdysteroid depletion by azadirachtin in Tenebrio molitor pupae. Pesticide Biochem. Physiol. 38:6-65.

MILLER, R.W. 1990. Use of ivermectin to control the lesser mealworm (Coleoptera: Tenebrionidae) in a simulated poultry broiler house. Poultry Sci. 69:1281-1284.

MILLER, R.W. and REDFERN, R.E. 1986. Feed additives for control of lesser mealworm (Coleoptera: Tenebrionidae) in poultry broiler houses. J. Econ. Entomol. 81:1137-1139.

MOLINARI, G.P., FABBRINI, R. and SUSS, L. 1993. Fumigation of milled products with phosphine. Tecnica molitoria 44:754-762.

NAKAYAMA, A. 1990. Computer-aided molecular design and structure-activity relationships of pesticides. J. Pesticide Sci. 15:481-494.

NAWROT, J., HARMATHA, J. and BLOSZYK, E. 1987. Secondary plant metabolites with antifeeding activity and their effects on some stored product insects. Proceedings 4th International Working Conference on Stored-Product Protection, TEl Aviv, Israel, 21-26 Sept. 1986 (edited by Donahaye, E. and Navarro, S.). 1987:591-597. Bet Dagan, Israel; Agricultural REsearch Organization.

NEBEKER, A.V., DUNN, K.D., GRIFFIS, W.L. and SCHUYTEMA, G.S. 1994. Effects of dieldrin in food, on growth and bioaccumulation in mallard ducklings. Arch. Env. Contamination and Toxicol. 26 29-32.

PARK, N.J., SONG, C., KIM, G.H. and CHO, K.Y. 1994. The evaluating method of the insecticidal activity of three chitin synthesis inhibitors against the yellow mealworm, Tenebrio molitor Linnaeus. Korean J. Appl. Entomol. 33:281-285.

PENG, S.B. and YANG, X.M. 1988. Toxicity and efficacy of 18 pesticides on Cetopria induta Wiedemann and Hapsifera braoa Christoph infesting Auricularia auricula (L>. ex Hook) Underw. in bedlog cultivation. Acta Phytophylactica Sinica 15:201-207.

PEVELING, R. and WEYRICH, J. 1992. Effects of neem oil, Beauveria bassiana and dieldrin on non-target tenebrionid beetles in the desert zone of the Republic of Niger. Biological control of locusts and grasshoppers: proceedings of a workshop held at the International Institute of Tropical Agriculture, Cotonou, Republic of Benin, 29 April-1 May 1991. 1992:321-336. Wallingford, UK; CAB International.

PRACROS, P. 1988. Measure of biological activity of lucerne saponins by yellow mealworm larvae, Tenebrio molitor L. (Coleoptera, Tenebrionidae). I. Comparison with results of some biological tests. Agronomie 8: 257-263.

PRACROS, P. and COURANJOU, C. 1988. Measurement of the biological activity of lucerne saponins using mealworm larvae: Tenebrio molitor L. (Coleoptera: Tenebrionidae). II. Research on the saponin fractions responsible for the observed antifeedant effects. Agronomie 8:793-799.

RADFORD, B.J. and ALLSOPP, P.G. 1987. Use of insecticides and a press wheel to control soil insects affecting sorghum and sunflower establishment in southern Queensland. J. Australian Entomol. Soc. 26:161-167.

RICE, P.J. and COATS, J.R. 1994. Insecticidal properties of several monoterpenoids to the house fly (Diptera: Muscidae), red flour beetle (Coleoptera: Tenebrionidae), and southern corn root worm (Coleoptera: Chrysomelidae). J. Econ. Entomol. 87:1172-1179.

RIVERS, D.B., HINK, W.F. and DENLINGER, D.L. 1993. Toxicity of the venom of Nasonia vitripennis (Hymenoptera: Pteromalidae) toward fly hosts, nontarget insects, different developmental stages, and cultured insect cells. Toxicon. 31:755-765.

BIBLIOGRAPHY - TENEBRIO

SAMSON, P.R., PARKER, R.J. and JONES, A.L. 1989. Laboratory studies on protectants for control of Sitophilus oryzae (Coleoptera: Curculionidae) and Rhyzopertha dominica (Coleoptera: Bostrichidae) in paddy rice. J. stored Prod. Res. 25:39-48.

SARAC, A. and TUNC, I. 1995. Toxicity of essential oil vapours to stored- product insects. Zeitschr. fur Pflanzenkrankheiten und Pflanzenschutz 102:69-74.

SCHUYTEMA, H., NEBEKER, A.V., PETERSON, J.A. and GRIFFIS, W.L. 1993. Effects of pentachlorophenol-contaminated food organisms on toxicity and bioaccumulation in the frog, Xenopus laevis. Archives Env. Contam. and Toxicity 24:359-364.

SEGURA-CORREA, R., MATA, R., ANAYA, A.L., HERNANDEZ-BAUTISTA, B., VILLENA, R., SORIANO-GARCIA, M., BYE, R.and LINARES, E. 1993. New tetranortriterpenoids from Swietenia humilis. J. Natural Prod. 56:1567-1574.

SLAMA, K. and MILLER, T.A. 1987. Insecticide poisoning: disruption of a possible autonomic function in pupae of Tenebrio molitor. Pesticide Biochem. Physiol. 29:25-34.

SOLTANI, N. 1990. Action of diflubenzuron and 20-hydroxyecdysone on haemolymphatic carbohydrate and protein in pupae of Tenebrio molitor L. (Coleoptera: Tenebrionidae). Annales de la Societe Entomologique de France 26:575-584.

SOLTANI, N., CHEBIRA, S., DELBECQUE, J.P. and DELACHAMBRE, J. 1993. Biological activity of flucycloxuron, a novel benzoylphenylurea derivative, on Tenebrio molitor: comparison with diflubenzuron and triflumuron. Experientia 49:1088-1091.

SOLTANI, N., DELACHAMBRE, J. and DELBECQUE, J.P. 1989. Stage-specific effects of diflubenzuron on ecdysteroid titers during the development of Tenebrio molitor: evidence for a change in hormonal source. General and Comparative endocrinol. 76: 350-356.

SOSA, M.E., TONN, C.E. and GIORDANO, O.S. 1994. Insect antifeedant activity of clerodane diterpenoids. J. Natural Prod. 57:1262-1265.

THOMPSON, M. STEICHEN, J.C., and FFRENCH-CONSTANT, R.H. 1993. Conservation of cyclodiene insecticide resistance-associated mutations in insects. Insect Molec. biol. 2:149-154.

UMGLAUB, W. and NEUMANN, F. 1994. Use of meal beetles to detect residues of fenoxycarb potentially harmful to bees.Tierarztliche-Umschau 49:755-756, 759-760.

VAINIO, A. 1994. Effect of pesticides on long-term survival of Steinerma feltiae in the field. Bull. OILB-SROP 17:70-76.

VOLEVAKHA, S.N. and ZATSERKOVSKII, V.A. 1990. Formation of beneficial and pest insect faunas on irrigated crops. Zaschita Rastenii Kiev 37:17-21.

WEAVER, D.K., MCFARLANE, J.E. and ALLI, I. 1990. Repellency of volatile fatty acids present in frass of larval yellow mealworm, Tenebrio molitor L. (Coleoptera: Tenebrionidae), to larval conspecifics. J. Chem. Ecol. 16:585-593.

WEAVER, J.E. AND KONDO, V.A. 1987. Laboratory evaluation of insect growth regulators in producing lesser mealworm mortality and egg infertility. J. Agric. Entomol. 4:233-245.

9. IRRADIATION AND THE USE OF ISOTOPES

10.NUTRITION

BARCLAY, R., DOLAN, M.A. and DYCK, A. 1991. The digestive efficiency of insectivorous bats. Canad. J. Zool. 69:1853-1856.

CRAWFORD, C.S. 1988. Nutrition and habitat selection in desert detritivores. J. Arid Environments 14:111-121.

DESPINS, J.L. and AXTELL, R.C. 1995. Feeding behavior and growth of broiler chicks fed larvae of the darkling beetle Alphitobius diaperinus. Poultry Sci. 74:331-336.

DRINKWATER, T.W. 1994. Rearing the false wireworm, Somaticus terricola (Fahraeus) (Coleoptera: Tenebrionidae) on an artificial diet. African Entomol. 2: 74-76.

FRYE, F.L. and CALVERT, C.C. 1989. Preliminary information on the nutritional content of mulberry silk moth (Bombyx mori) larvae. J. of Zoo and Wild Life Medicine 20: 73-75.

MANOJLOVIC, B 1988. The influence of food and climatic factors on the postembryonic development of the greater mealworm Tenebrio molitor L. (Coleoptera: Tenebrionidae). Zastita Bilja 39:33-42.

MANOJLOVIC, B. 1988. The influence of food and temperature on the post-embryonic development of the greater mealworm Tenebrio molitor L. (Coleoptera: Tenebrionidae). Zastita Bilja 39:43-53.

MANOJLOVIC, B. 1988. Influence of food on the weight of pupae and adults, lifespan of adults and fertility of the yellow mealworm Tenebrio molitor L. (Coleoptera: Tenebrionidae). Zastita Bilja 39:115-124.

MANOJLOVIC, B. 1988. Influence of food on the weight of pupae and adults, lifespan of adults and fertility of the yellow mealworm, Tenebrio molitor L. Coleoptera: Tenebrionidae). Zastita Bilja 39: 154-124.

MURRAY, B .R. and Dickman, C.R. 1994. Food preferences and seed selection in two species of Australian rodents. Wildlife Res. 21:647-655.

PENG, Z.J. and HUANG, B.Z. 1993. A study of Tenebrio molitor L. Entomological Knowledge.30:111-113.

PRACROS, P., LESSARD, F.F. and CONAN, L. 1983. The early classification of the nutritional value of protein sources by biological tests using two insects found in stored

foodstuffs of the Tenebrionidae family: Tenebrio molitor L. and Tribolium confusum Duval. Qualitas Plantarum Plant Foods for Human Nutrition 33:215-220.

SOUISSE, R. and CAUSSANEL, C. 1985. Ovarian modifications in relation to diets in a carnivorous insect, Labidura riparia (Dermaptera, Labiduridae). Annales de la Societe Entomologique de France 21: 87-94.

UETZ, G.W., BISCHOFF, J. and RAVER, J. 1992. Survivorship of wolf spiders (Lycosidae) reared on different diets. J. Arachnol. 20:207-211.

II. PARASITES AND SYMBIONTS

AFUYA, L.C., STRINGHAM, S.M., ARENDS, J.J. and BROOKS, W.M. 1994. Prevalence of protozoan infections in darkling beetles from poultry houses in North Carolina. J. Invert. Pathol. 63:255-259.

ARME, C. 1993. A day in the life of a tapeworm. Helminthologia 30:1-2, 3-7.

AVANCINI, R.M.P. and UETA, M.T. 1990. Manure breeding insects (Diptera and Coleoptera) responsible for cestoidosis in caged layer hens. J. Applied Entomol. 3:307-312.

BELIKANOV, V.P. 1992. Studies on the life cycle of Thubunea bavlisi (Nematoda, Spirurina). Parazitologiya (St. Petersburg) 26:436-440.

BELLINI, R. and MAINI, S. 1989. The seasonal presence and activity of parasitoids (Hymenoptera: Pteromalidae) of synanthropic Diptera in animal housing in Romagna. Bolletino dell'Istituto di Entomologia "Guido Grandi" della Universita degli Studi di Bologna 43:207-222.

CHOROMANSKI, L. 1983. Experimental infection of rats and mice with Hymenolepis diminuta (Cestoda: Hymenolepididae) and influence of immunosuppression on the infection in mice. Acta Parasitologica Polonica 28:317-326.

CLOPTON, R.E., JANOVY, J. Jr., and PERCIVAL, T.J. 1992. Host stadium specificity in the gregarine assemblage parasitizing Tenebrio molitor. J. Parasitol. 78:334-337.

CLOPTON, R.E. and JANOVY, J. Jr. 1993. Developmental niche structure in the gregarine assemblage parasitizing Tenebrio molitor. J. Parasit. 79:701-709.

CLOPTON, R.E., PERCIVAL, T.J. and JANOVY, J. Jr. 1991. Gregarina niphandrodes n. sp. (Apicomplexa: Eugregarinorida) from adult Tenebrio molitor (L.) with oocyst descriptions of other gregarine parasites of the yellow mealworm. J. Protozool. 38:472-479.

CONN, D.B. 1985. Life cycle and postembryonic development of Ochoristica anolis (Cyclophyllidea: Linstowiidae). J. Parasitology 71:10-16.

FIORENTIN, L. 1994. Cause of Mycoplasma synoviae infection remains obscure. Misset World Poultry 10:48-49.

FRENCH, R.A., TODD, K.S., MEEHAN, T.P. and ZACHARY, J.F. 1994. Parasitology and pathogenesis of Geopetitia aspiculata

(Nematoda: Spirurida) in zebra finches (Taeniopygia guttata): experimental infection and new host records. J. of Zoo and Wildlife Medicine 25:403-422.

GORDH, G., and WILLS, L. 1989. Anatomical notes on Uropoda sp., a phoretic mite infesting dung-inhabiting beetles in southern California (Acari: Uropodidae; Coleoptera: Tenebrionidae, Histeridae). Pan-Pacific Entomol. 65:410-413.

GREWAL, P.S., GAUGLER, R., KAYA, H.K. and WUSATY, M. 1993. Infectivity of the entomopathogenic nematode Steinernema scapterisci (Nematoda: Steinernematidae). J. Invert. Pathol. 62:22-28.

GRIFFIN, C.T. and DOWNES, M.J. 1991. Low temperature activity in Heterorhabditis sp. (Nematoda: Heterorhabditidae). Nematologica 37a:83-91.

GRIFFIN, C.T. and DOWNES, M.J. 1994. Recognition of low-temperature infective isolates of the entomopathogenic nematode Heterorhabditis spp. (Rhabditida: Heterorhabditidae). Nematologica 40:106-115.

GUDKOV, I.I. 1990. Biology of the entomopathogenic nematode Heterorhabditis bacteriophora. In: Helminths of insects (edited by Sonin, M.D.) 1990. 46-50. Translation of Gel'minty Nasekomykh. 2300PA Leiden, Netherlands; E.J. Brill.

HAITLINGER, R. 1993. Larval Leptus ectoparasitic on tenebrionid beetles from Ghana. Bolletino della Societa Entomologica Italiana 125:166-170.

HURD, H. and ARME, C.1984. Pathophysiology of Hymenolepis diminuta infections in Tenebrio molitor: effect of parasitism on haemolymph proteins. Parasitology 89:253-262.

HURD, H. and ARME, C. 1984. Tenebrio molitor (Coleoptera): effect of metacestodes of Hymenolepis diminuta (Cestoda) on haemolymph amino acids. Parasitology 89:245-251

HURD, H. 1994. Interactions between parasites and insect vectors. Memorias do Instituto Oswaldo Cruz Rio de Janeiro 89 (Suppl. 2):27-30.

HURD, H. and ARME, C. 1986. Hymenolepis diminuta: effects of metacestodes on production and viability of eggs in the intermediate host, Tenebrio molitor. J.Invert. Pathol. 47:225-230.

HURD, H. and ARME, C. 1986. Hymenolepis diminuta: Influence of metacestpdes on synthesis amd secretion of fat body protein and its ovarian sequestration in the intermediate host, Tenebrio molitor. Parasitology 93:111-120.

HURD, H. and FOGO, S. 1991. Changes induced by Hymenolepis diminuta (Cestoda) in the behavior of the intermediate host Tenebrio molitor (Coleoptera). Canad. J. Zool. 69:2291-2294.

HURD, H., MERCER, J.G. and MUNN, A.E. 1987. The effect of Hymenolepis diminuta upon ecdysteroid activity in the haemolymph of the intermediate host, Tenebrio molitor. Parasitology Research 74: 198-199.

HURD, H. and PARRY, G. 1991. Metacestode-induced depression of the production of, and response to, sex pheromone in the intermediate host Tenebrio molitor. J. Invert. Pathol. 58:82-87.

HURD, H., STRAMBI, C. and BECKAGE, N.E. 1990. Hymenolepis diminuta: an investigation of juvenile hormone titre, degradation and supplementation in the intermediate host, Tenebrio molitor. Parasitology 100:445-452.

JIANG, T.J., JIN, Z.H., WU, H.and CUI, C.Q. 1989. A study on the life-cycle and epidemiology of Pseudanoplocephala crawfordi Baylis, 1927. J. Helminthology 64:54-61.

KEARNS, J.Y., HURD, H. and PULLIN, A.S. 1994. Effect of metacestodes of Hymenolepis diminuta on storage and circulating carbohydrates in the intermediate host, Tenebrio molitor. Parasitology 108:473-478.

KLEESPIES, R., BATHON, H. and ZIMMERMAN, G. 1989. Investigations on the natural occurrence of entomopathogenic fungi and nematodes in different soils in the surroundings of Darmstadt. Gesunde Pflanzen 41:350-355.

KOURA, E.A. and KAMEL, E.G. 1993. A survey of gregarines associated with Tenebrio molitor and Opatrioides vicinus in the central region of Saudi Arabia. J. Egyptian Soc. Parasit. 23:213-219.

KRIEG, A., HUGER, A.M., LANGENBRUCH, G.A. and SCHNETTER, W. 1983. Bacillus thuringiensis var., tenebrionis: a new pathotype effective against larvae of Coleoptera. Zeitschrift fur Angewandte Entomologie 96:500-508.

LACKIE, A.M. 1986. Evasion of insect immunity by helminth larvae. Immune mechanisms in invertebrate vectors. The proceedings of a symposium held at the Zoological Society of London on 14th and 15th November 1985 <Edited by Lackie, A.M.>. Symposia of the Zoological Society of London. 1986:161-178. Oxford, U.K.: Oxford University Press.

LIPA, J.J. and HOKKANEN, H.M.T. 1992. Safety of Nosema meligethi I. and R. (Microsporida) to Apis mellifera L. and Coccinella septempunctata. J. Invert. Pathol. 60:310-311.

MCALLISTER, J.C., STEELMAN, C.D. and SKEELES, J.K. 1994. Reservoir competence of the lesser mealworm (Coleoptera: Tenebrionidae) for Salmonella typhimurium (Eubacteriales: Enterobacteraceae). J. Med. Entomol. 31:369-372.

MALHOTRA, S.K., CHATTERJEE NEE BANERJEE, S. and DHOBAL NEE GAIROLA, D. 1989. Biology of cyclophyllidean tapeworms in Indian natural and experimental hosts at Garhwal Himalayas and Gangetic Plains. Japanese J. Parasit. 38:327-332.

MATCHANOV, N.M., DADAEV, S., KABILOV, T.K. and SIDDIKOV, B. Kh. 1989. Helminths of animals from desert biocoenoses in Uzbekistan. 1989, 104 pp. Tashkent, USSR, FAN.

METTRICK, D.F. and RAHMAN, M.S. 1984. Effects of parasite strain and intermediate host species on carbohydrate intermediary metabolism in the rat tapeworm Hymenolepis diminuta. Canad. J. Zool. 62:355-361.

PEZOWICZ, E. and SANDNER, H.H. 1983. Laboratory experiments on the use of nematodes for the control of pests of stored products. Ochrona Roslin 27:36.

RICHARDS, K.S. and ARME, C. 1983. Junctional complexes in the inner cyst tissue of the cysticercoid of Hymenolepis diminuta (Cestoda). Parasitology 87:295-306.

RICHARDS, K.S. and ARME, C. 1984. Maturation of the scolex syncytium in the metacestode of Hymenolepis diminuta, with special reference to microthrix formation. Parasitology 88:341-349.

RUHNKE, T.R. and JANOVY, J. Jr. 1989. The site specificity of two species of Gregarina in Tenebrio molitor larvae. J. Protozool. 36:428-430.

RUHNKE, T.R. and JANOVY J. Jr. 1990. Life history differences between two species of Gregarina in Tenebrio molitor larvae. J. Parasitol. 76:519-522.

SIDDIKOV, B. KH., KABILOV, T.K. and RASULOV, R.K. 1987. Larval helminths from some terrestrial invertebrates in the Kyzylkum desert. Uzbekski i Biologicheskii Zhurnal 1987:52-54.

STEINKRAUS, D.C. and CROSS, E.A. 1993. Description and life history of Acarophenax mahunkai, new species (Acari, Tarsonemina: Acarophenacidae), an egg parasite of the lesser mealworm (Coleoptera: Tenebrionidae). Annals Entomol. Soc. Amer. 86:239-249.

STEINKRAUS, D.C., GEDEN, C.J. and RUTZ, D.A. 1991. Susceptibility of lesser mealworm (Coleoptera: Tenebrionidae) to Beauveria bassiana (Moniliales:

Moniliaceae): effects of host stage, substrate, formulation, and host passage. J>.Med. Entomol. 28:314-321.

THURSTON, G.S., YULE, W.N. and DUNPHY, G.B. 1994. Explanations for the low susceptibility of Leptinotarsa decemlineata to Steinernema carpocapsae. Biol. Control 4:53-58.

VOLOVNIK, S.V. 1994. On parasites and predators of Cleoninae weevils (Col., Curculionidae) in Ukrainian steppe. Anzeiger fur Schaedlingskunde Pflanzenschutz Umweltschutz 67:77-79.

WESTERMAN, P.R. and GODTHELP, J.M. 1990. The host searching ability of the insect parasitic nematode Heterorhabditis sp. in sand columns. Mededelingen van de Faculteit Landbouwwetensc happen, Rijksuniversiteit GEnt. 55: 691-698.

WILSON, M.J., GLEN, D.M., HUGHES, L.A., PEARCE, J.D. and ROGERS, P.B. 1994. Laboratory tests of the potential of entomopathogenic nematodes for the control of field slugs (Deroceras reticulatum). J. Invert. Pathol. 64:182-187.

WOO, Y.T., LAI, D.Y., ARCOS, J.C. and ARGUS, M.F. 1988. Substances elaborated by insects and parasites. In: Chemical induction of cancer: structural bases and biological mechanisms: volume III. C. Natural, metal, fiber, and macromolecular carcinogens. 1988, 436-438. London, UK, Academic Press INc (london) Ltd.

YUMURA, S and INOUE, I. 1988. Neatus picipes as an intermediate host of Hymenolepis diminuta. Japanese J. Parasit. 38:86-91.

ZANUNCIO, J.C., ALVES, J.B., ZANUNCIO, T.V., GARCIA, J.F. and EVANS, H.F. 1994. Hemipterous predators of eucalyptus defoliator caterpillars. Forestry: integrated pest management programs. Papers presented at a symposium held within the XIIth International Plant Protection Congress, Rio de Janeiro, Brazil, August 1991. Forest Ecol. and Management 65:65-73.

ZANUNCIO, J.C. DIDONET, J., GASPERAZZO, W.L. and SANTOS, G.P. 1993. Nymphal development of Podisus connexivus Bergroth, 1891 (Hemiptera, Pentatomidae) fed on pre-pupas of Psorocampa denticulata (Lepidoptera, Notodontidae) and larvae of Tenebrio molitor (Coleoptera, Tenebrionidae). Revista Brasileira de Entomol. 37:523-527.

ZANUNCIO, T.V., MOREIRA, L.A., ZANUNCIO, J.C. and SANTOS, G.P. 1993. Nymphal density effect on the viability and survival of Supputius cincticeps Stal, 1860 (Hemiptera, Pentatomidae) reared on Tenebrio molitor (Coleoptera:Tenebrionidae) larvae. Revista Brazileira de Entomologia 37:483-487.

II. PESTS

ALLOTEY, J. and KUMAR, R. 1988. Insect pest spectrum of stored palm kernel and the damage caused by them. Insect Sci. and its Application 9:617-623.

ANONYMOUS. 1987. Ground nut. Insect stresses. Insect pests. ICRISAT annual report 1986, 1987, 228-232. Patancheru, India; International Crops Research Institute for the Semi-Arid Tropics.

ARCHIBALD, R.D., MADDISON, P.A. 1988. A summary of stored product Coleoptera in New Zealand and neighbouring Pacific countries. New Zealand Entomologist 1988, No 11, 1-6.

BANDEIRA, A.G., GOMES, J.I. and Souza-e-Silva, P.C. 1989. Insect pests of wood of buildings in Belem, Para. Boletim de Pesquisa Centro de Pesquisa Agropecuaria do Tropico Umido. 1989., No. 101, 25pp.

BARKER, P.S. and SMITH, L.B. 1990. Influence of granary type and farm practices on the relative abundance of insects in granary residues. Canad. Entomol. 122:393-400.

BRAR., H.S., CHAHAL, B.S. and RAZAN, M. 19887. Insect pests of stored oilseeds in Punjab and Chandigarh. J. of Research, Punjab, Agric. Univ. 1987, 24:437-440.

CIDARIA, D., CAPPAI, A. VALLESI, A., CAPRIOLI, V. and PIRALI, G. 1991. A novel strain of Bacillus thuringiensis NCIMB 40152) active against coleopteran insects. FEMS Microbiology Letters 81:129-134.

CRAVEDI, P. and GUARONI, S. 1982. Ways and mean of spreading microorganisms in foodstuffs through the activity of insects. 3o simposio sulla difesa antiparassitaria nelle industrie alimentari e la protezione di alimenti. 1982. 167-172. Piacenza, Italy; Camera di Commercio Industria Artigianato e Agricoltura.

DESPINS, J.L. 1987. Investigations of the destructive behavior, and methods for control of the lesser mealworm, Alphitobius diaperinus (Panzer) (Coleoptera: Tenebrionidae). Dissertation Abstracts International B, Sciences and Engineering 1987, 48: 2, 334-B Thesis, Virginia Polytechnic Institute and State University, USA, 126pp.

DESPINS, J.L. TURNER, E.C. Jr. and RUSZLER, P.L. 1987.Construction of profiles of high rise caged layer houses in association with insulation damage caused by the lesser mealworm, Alphitobius diaperinus (Panzer) in Virginia. Poultry Sci. 66:243-250.

DONAHAYE, E.J., NAVARRO, S. and RINDNER, M. 1995. Low temperature as an alternative to fumigation for disinfecting dried fruit from three insect species. J. stored Prod. Res. 31:63-70.

DRINKWATER, T.W. 1989. Occurrence of soil-inhabiting Tenebrionidae (Coleoptera) in maize fields in South Africa. Phytophylactica. 21:397-398.

EVANS, D.C. 1989. Traditional pest control in Ecuador: effects of castor leaves on Coleoptera pests in corn. Tropical Pest Management 35:146-149.

GEDEN, C.J. 1989. Understanding and controlling litter beetles <Alphitobius diaperinus and Dermestes maculatus in poultry housing >. Poultry Digest. 48:565, 142, 144.

GEDEN, C.J. and AXTELL, R.C. 1988. Effect of temperature on nematode (Steinernema feltiae <Nematoda: Steinernematidae>) treatment of soil for control of lesser mealworm (Coleoptera: Tenebrionidae) in turkey houses. J. Econ. Entomol. 81:800-803.

GERGINOV, L. 1989. Insect pests of maize in Bulgaria and their control. Acta Phytopathologica et Entomologica Hungarica 24:81-84.

GODFREY SAM AGGREY, W. and BALCHA, A. 1988. Insect fauna in a declining citrus orchard at Melka Werer in Ethiopia. FAO Plant Protection Bull. 36:75-81.

GORHAM, J.R. 1989. HACCP and filth in food. The detection and elimination of pest infestation. J. Environmental Health 52:84-86.

GRONCHI, C. 1982. Aspects of flour storage in bakeries. 3o simposio sulla difesa antiparassitaria nelle industrie alimentari e la protezione degli alimenti. 1982, 107-115; Piacenza, Italy; Camera di Commercio Industria Artigianato e Agricoltura.

GROSSER, D. 1984. Conditions necessary for the existence of, and the recognition of little known wood-destroying insects and 'occasional wood-destroyers'. Praktische-Schadlingsbekampfer 36:101-112.

HANSEN, T.N. and BAUST, J.G. 1989. Differential scanning calorimemetric analysis of Tenebrio molitor antifreeze protein activity. Cryobiology 26: 383-388.

ISMAIL, A.Y., ABDUL-ZAHRA, K., and ALI, M. 1988. Survey of insect pests in cereal stores in Erbil. Iraqi J. Agric. Sci. 'ZANCO' 6:103-117.

JACKSON, S.D. 1989. Description of the larva and pupa of Cycloderus signaticollis F. et G. Coleoptera: Pythidae). Revista Chilena de Entomologia 17:79-83.

KARWASRA S.S. and PARASHAR, R.D. 1991. Association of Alphitobius diaperinus with bacterial soft rot of potato. Indian Phytopathology 44:115-116.

KFIR, R. 1986. Releases of natural enemies against the pine bark beetle Orthotomicus erosus (Wollaston) in South Africa. J. Entomol. Soc. Southern Africa.

KHALIL, S.K. and IRSHAD, M. 1994. Field estimates of population growth rate of some important grain pests in wheat stored at farm level in northern Pakistan. Sarhad H. Agric. 10:273-278.

KHAMRAEV, A. Sh. 1990. Resources for improving the protection of cotton against pests. ZAshchita Rastenii Moskva 1990. No. 3, 343-348.

KIM, K.C., KIM, S.S. and CHOI, H.S. 1988. An investigation of insect pests and the period of maximum occurrence of key insect pests in stored rice grain. Korean J. Applied Entomol. 27:117-124.

KOBAYASHI, T., and AGUARO, G. de 1988. Singular occurrence of soybean insect pests and the control of them under the severe drought condition in Paraguay. JARQ Japan Agricultural Research Quarterly 22:157-160.

KOMAREK, S. 1988. The glossy black cereal mould beetle (Alphitobius diaperinus Panzer), a little-known stored product pest. Pflanzenschuts 1988, Folge 1, 3-4.

KUMAR, P. 1986.Flesh-eating behavior of Alphitobius diaperinus Panz. (Tenebrionidae: Coleoptera). Indian J. Entomol. 48:113-115.

LEE, R.E. Jr., STRONG-GUNDERSON, J.M., LEE, M.R. and DAVIDSON, E.C. 1992. Ice-nucleating active bacteria decreass the cold-hardiness of stored grain insects. J. Econ. Entomol. 85:371-374.

LESSARD, F.F. 1985. Thermal treatments for disinfestation of cereals and cereal products: possibility of practical usage and sphere of application. Bulletin, Organisation Europeenne et Mediterraneenne pour la Protection des plantes. 15:109-118.

LEVINSON, H. and LEVISON, A. 1994. Origin of grain storage and insect species consuming desiccated food. Anzeiger fur Schaedlingskunde Pflanzenschutz Umweltschutz 67:47-60.

LIBBRECHT, M.B. 1987. Concerning the tenebrionids of the Belgian fauna (Coleoptera: Tenebrionidae). Bulletin et Annales de la Societe Royale Belge d'Entomologie 123:119-130.

MISHCHENKO, A.A. and MASHKEI, I.A. 1987. Harmful beetles (Coleoptera) -inhabitants of livestock premises. Veterinariya, Kiev. 62:68-71.

PRADZYNSKAYA, A. 1983. Occurrence of stored-product insects in stores in Wielkopolska. Prace Naukowe Instytutu Ochrony Roslin 25:143-156.

REUTER, E. and BAHR, I. 1986. The incidence of insect pests of stored grain. Nachrichtenblatt fur den Pflanzenschutz in der DDR. 42:225-229.

ROBERTSON, L.N. 1991. Soil-insecticide bioassays and seed treatments for soil-insect control in central Queensland, Australia. Crop Protection 10:293-298.

ROBERTSON, L.N. and SIMPSON, G.B. 1989. The use of germinating-seed baits to detect soil insect pests before crop sowing. Australian J. Exp. Agric. 29:403-407.

RUPPEL, R.F. 1983. Addendum to the inventory of stored grain insects in Michigan. Great Lakes Entomol. 16:182.

SAMSON, P.R., PARKER, R.J. and JONES, A.L. 1988. Comparative effect of grain moisture on the biological activity of protectants on stored corn. J. Econ. Entomol.81:949-954.

SCHROECKENSTEIN, D.C., MEIER-DAVIS, S., GRAZIANO, F.M., FALOMO, A., and BUSH, R.K. 1988. Occupational sensitivity to Alphitobius diaperinus (Panzer) (lesser mealworm). J. Allergy and Clinical Immunology 82:1081-1088.

SHARMA, S.S., KHURANA, D.S. and RANDHAWA, K.S. 1987. Occurrence of storage insects in potato (Solanum tuberosum L.) tubers. J. Research, Punjab Agric. University 24:103-104.

SKEWES, P.A. and MONROE, J.L. 1991. The effects of darkling beetles (Alphitobius diaperinus) on broiler performance. Poultry Science 70:1034-1036.

SMITH, L.B. and BARKER, P.S. 1987. Distribution of insects found in granary residues in the Canadian Prairies. Canad. Entomol. 119:873-880.

SMITH, L.B. 1985. Insect infestation in grain loaded in railroad cars at primary elevators in southern Manitoba, Canada. J. Econ. Entomol. 78:531-534.

SRIVASTAVA, R.P. TANAKHA, S. and PAREEK, B.L. 1985. Some new and lesser known pests of Rajasthan. Bull. Entomol. 26:102-103.

STAFFORD, K.C., III; COLLISON, C.H., BURG, J.G. and CLOUD, J.A. 1988. Distribution and monitoring lesser mealworms, hide beetles, and other fauna in high rise caged-layer poultry houses. J. Agric. Entomol. 5:89-101.

STEIN, W. 1988.New results from the field of stored products protection (animal pests).II. Zeitschrift fur Pflanzenkrankheiten und Pflanzenschutz 95:651-669.

SVOBODA, J.A. and LUSBY, W.R. 1994. Variability of sterol utilization in stored-products insects. Experientia 50:72-74.

TAGI-ZADE, T.A. and GADZHIZALOV, Z.M. 1989. Study of beetles as biological control agents of flies. Meditsinkaya Parazitologiya i Parazitarnye bolezni 1989 No 4, 91.

TARIMO, A.J.P. and KAREL, A.K. 1987. Insect pests of groundnut (Arachis hypogaea L) in Tanzania and their control. Proc. 2nd Regional Groundnut Workshop for Southern Africa. 1987., 95-102 Patanacheru, Andra Pradesh, 50 INdia; ICRISAT.

THURSTON, DG.S., YULE, W.N. and DUNPHY, G.B. 1994. Explanations for the low susceptibility of Leptinotarsa decemlineata to Steinerma carpocapsae. Biol. Control 4:53-56.

VAN EEDEN, C.F., VAN RENSBURG, J.B.J. and VAN DER LINDE, T.C.D. 1994. Nature and importance of subterranean insect damage to pre-harvest groundnuts. S. African J. Plant and Soil 11:59-63.

VAN EEDEN, C.F., VAN RENSBURG, J.B.J. and VAN DER LINDE, T.C.D.K. 1994. Damage caused by the false wireworm, Somaticus angulatus (Fahraeus) (Coleoptera: Tenebrionidae), to pre-harvest groundnuts in the greenhouse. Applied Plant Sci. 2:57-60.

VICTOR, J.R., and OGONOR, P.S. 1987. Humidity reactions in two species of tenebrionid beetles infesting poultry and food storage houses in Nigeria. Rev. de Zoologie Africaine 101:423-430.

WILLS, L.E. and MULLENS, B.A. 1991. Vertical distribution of dipterous larvae and predatory arthropods in accumulated caged layer poultry manure in southern California. J. Agric. Entomol. 8:59-66.

YUCEL, A. 1968. Investigation on determining flour beetles and their damage in meal factories and mills in south-eastern Anatolia. Bitki koruma Bulteni 28:57-77.

ZAKI, F.N. 1989. Rearing of two predators, Orius albidipennis and Orius laevigatus (Fieber) (Hem. Anthocaridae) on some insect larvae. J. Appl. Entomol. 107:107-109.

ZHU, D.S. 1987. A survey of stored grain insects in Ningxia. Ningxia Agricultural and Forestry Science and Technology, No. 5, 13-15.

13. PHYSIOLOGY, BIOCHEMISTRY AND MOLECULAR BIOLOGY

ABBOUD, Y.M., CHARNLEY, A.K., REYNOLDS, S.E. and WILLIAMS-WYNN, C.A. 1983. Bursicon in the mealworm, Tenebrio molitor L. amd its role in the control of postecdysial tanning. J. Insect Physiol. 29:947-951.

ABE, T., KAWAI, N. and MIWA, A. 1989. Blocking of reprtitive response from a neuromuscular preparation of Tenebrio molitor by phosphotriesters. Comp. Biochem. Physiol. C, Comp. Pharmacol. and Toxicol. 92: 309-313.

AHMAD, S.A. and HOPKINS, T.L. 1993. Phenol beta-glucosyltransferases in six species of insects: properties and tissue localization. Comp. Biochem. Physiol. B. Comp. Biochem. 104:515-519.

AHMED, M.Y.Y. and KLOFT, W.J. 1985. Determination of haemolymph volume of irradiated and normal males and females of Tenebrio molitor L. (Coleoptera: Tenebrionidae). Mitteilungen der Deutschen Gesellschaft fur Allgemeine und Angewandte Entomologie 4:362-365.

ALBERT, P.J., ZACHARUK, R.Y., WEAVER, D.K. and MCFARLANE, J.E. 1993. Electrophysiological and behavioural responses to lactic acid stimuli in larvae of Tenebrio molitor L. (Coleoptera: Tenebrionidae) and permeability of antennal sensilla. Physiol. Entomol. 18:329-335.

ALTABELLA, T. and CHRISPEELS, M.J. 1990. Tobacco plants transformed with the bean alphaal gene express an inhibitor of insect alpha- amylase in their seeds. Plant Physiol. 93:805-810.

ANAYA-LANG, A.L., REYNA, J.M., ESPEJO-GONZALEZ, O. and GIRAL, F. 1991. Some biological effects of Dioscorea composita and Dioscorea mexicana glycosidae fractions. Int. J. Pharm. 29:161-168.

ANDERSEN, S.O. 1989. Enzymatic activities involved in incorporation of N-acetyldopamine into insect cuticle during sclerotization. Insect Biochem. 19: 375-382.

ANDERSEN, S.O., RAFN, K., KROGH, T.N., HOJRUP, P. and ROEPSTORFF, P. 1995. Comparison of larval and pupal cuticular proteins in Tenebrio molitor. Insect Biochem. Mol. Biol. 25:177-187.

ATTYGALLE, A.B., BLANKENSPOOR, C.L., MEINWALD, J. and EISNER, T. 1991. Defensive secretion of Tenebrio molitor (Coleoptera: Tenebrionidae). J. Chem. Ecol. 17:805-809.

AUDAS, A., HOGAN, G.E. and RAZNIAK, M. 1995. Incubation temperature as a modifying factor on survival of Tenebrio molitor reared in selenium-containing media. J. Toxicol. Environ. Health 44:115-122.

BAHJOU, A., GOURDOUX, L., MOREAU, R. and DUTRIEU, J. 1988. In vitro regulation of glycogen phosphorylase of the larval fat body of Tenebrio molitor. Comp. Biochem. and Physiol. B, Comp. Biochem. 89:233-237.

BAHJOU, A., GOURDOUX, L., MOREAU, R., PUIROUX, J., DUTRIEU, J. 1990. In vitro study of lipid metabolism in the mealworm larval fat body. Archives Insect Biochem. and Physiol. 15:21-32.

BAKER, J.E. 1991. Purification and partial characterization of alpha-amylase allozymes from the lesser grain borer, Rhyzopertha dominica. Insect Biochem. 21:303-311.

BAKER, J.E. 1986. Amylase/proteinase ratios in larval midguts of ten stored-product insects. Entomologia Experimentalis et Applicata 40:41-46.

BAKER, J.E. 1989. Interaction of partially-purified amylases from larval Anagasta kuehniella (Lepidoptera: Pyralidae) with amylase inhibitors from wheat. Comp. Biochem. Physiol. B Comp. Biochem. 93:239-246.

BALDBRIDGE, G.D. and FALLON, A.M. 1991. Nucleotide sequence of a mosquito 18S ribosomal RNA gene. Biochimica et Biophysica Acta, Gene Structure and Expression. 1089:396-400.

BARRETT, F.M. 1984. Metabolic origin of 3,4,-dihydroxyphenylacetic acid in Tenebrio molitor and differences in its content in larval, pupal and adult cuticle. Canad. J. Zool. 62:1005-1010.

BARRETT, M. 1990. Incorporation of various putative precursors into cuticular 3,4-dihydroxyphenylacetic acid of adult Tenebrio molitor. Insect Biochem. 20:645-652.

BARTOSZ-BECHOSKI, H., ROSINSKI, G., KONOPINSKA, D., SUJAK, P., and SOBOTKA, W. 1990. Further studies on proctolin analogues modified in position 2 of the peptide chain and their influence on heart-beat frequency of insects. International J. Peptide Protein Res. 36:450-456.

BELFIORE, C.J., VADLAMUDI, R.K., OSMAN, Y.A. and BULLA, L.A. Jr.1994. A specific binding protein from Tenebrio molitor for the insecticidal toxin of Bacillus thuringiensis subsp. tenebrionis. Biochem. Biophys. Res. Commun. 200:359-364.

BLACK, F.N. and HAPP, G.M. 1985. Isolation, partial characterization, and localization of the A and B proteins from the tubular accessory gland of male Tenebrio molitor. Insect Biochem. 15:639-650.

BOUNIAS, M., BAHJOU, A., GOURDOUX, L. and Moreau, R. 1993. Molecular activation of a trehalose purified from the fat body of a Coleopteran insect (Tenebrio molitor), by an endogenous insulin-like peptide. Biochem. Mol. Biol. 31:249-266.

BRADBROOK, D.A., CLEMENT, C.Y., COOK, B. and DINAN, L. 1990. The occurrence of vertebrate-type steroids in insects and a comparison with ecdysteroid levels. Comp. Biochem Physiol. B Comp. aBiochem. 95:365-374.

BREIDBACH, O. 1987. Constancy and variation of the serotonin-like immunoreactive neurons in the metamorphosing ventral nerve cord of the meal beetle, Tenebrio molitor L. (Coleoptera: Tenebrionidae). Int'l. J. Insect Morphol. and Embryol. 16:17-26.

BREIDBACH, O., DENNIS, R.D., KELLER, M. AND WIEGANDT, H. 1990. Evidence for the expression of a glucuronic acid-containing epitope in the central nervous system of two insects (Calliphora vicina, Diptera; Tenebrio molitor, Coleoptera). Neuroscience Letters

BREIDBACH, O., and DIRCKSEN, H. 1991. Crustacean cardioactive peptide-immunoreactive neurons in the ventral nerve cord and the brain of the meal beetle Tenebrio during postembryonic development. Cell and Tissue Research 265:129-144.

BREIDBACH, O. and WEGERHOFF, R. 1994. FMRFamide-like immunoreactive neurons in the brain of the beetle, Tenebrio molitor L. (Coleoptera: Tenebrionidae): Constancies and variations in development from the embryo to the adult. International J. Insect Morphol. and Embryol. 23:383-404.

BRIERS, T., LOOF, A. de 1983. Distribution and metabolism of ecdysteroids in the adult yellow mealworm beetle, Tenebrio molitor. Insect Biochem. 13:513-522.

BRINDLE, P.A., BAKER, F.C., TSAI, L.W. and SCHOOLEY, D.A. 1992. Comparative metabolism of isoleucine by corpora allata of nonlepidopterous insects versus lepidopteran insects, in relation to juvenile hormone biosynthesis. Arch. Insect Biochem. PHysiol. 19:1-15.

BRINDLE, P.A., SCHOOLEY, D.A., TSAI, L.W. and BAKER, F.C. 1988. Comparative metabolism of branched-chain amino acids to precursors of juvenile hormonne biogenesis in corpora

allata of lepidopterous versus non-lepidopterous insects. J. Biol. Chem. 263: 10653-10657.

CHATTERJEE, C. and ROY, S. 1988. Organ-specific quantification of acid- and alkaline phosphatase of Alphitobius piceus Olivier (Insecta: Coleoptera: Tenebrionidae) during post-embryonic development. Entomon. 13:263-267.

CHEN, M.S., FENG, G., ZEN, K.C., RICHARDSON, M., VALDES-RODRIGUEZ, S., REECK, G.R. and KRAMER, K.J. 1992. alpha-Amylases from three species of stored grain Coleoptera and their inhibition by wheat and corn proteinaceous inhibitors. Insect Biochem. Mol. Biol. 22:261-268.

CHURCHILL, D. and CAVENEY, S. 1993. Double whole-cell patch-clamp characterization of gap junctional channels in isolated insect epidermal cell pairs. J. Membr. Biol. 135:165-180.

CHURCHILL, D. and CAVENEY, S. 1993. Isolation of epidermal cell pairs from an insect, Tenebrio molitor, for dual whole-cell recording of large-conductance gap-junctional channels. J. Exp. Zool. 178:261-267.

COHEN, E. and CASIDA, J.E. 1990. Insect and fungal chitin synthetase activity: specificity of lectins as enhancers and nucleoside peptides as inhibitors. Pesticide Biochem. Physiol. 37:249-253.

CONNAT, J.L., DELBECQUE, J.P. and DELACHAMBRE, E. J. 1984. The onset of metamorphosis in Tenebrio molitor L.: effects of a juvenile hormone analogue and of 20-hydroxyecdysone. J. Insect Physiology: 30:413-419.

CONNAT, J.L., DELBECQUE, J.P. GLITHO, I., and DELACHAMBRE, J. 1991. The onset of metamorphosis in Tenebrio molitor larvae (Insecta, Coleoptera) under grouped, isolated and starved conditions. J. Insect Physiol. 37:653-662.

CONSTANTINOU C., CLOUDLEY-THOMPSON, J.L. 1986. Supercooling in the various instars of the mealworm beetle Tenebrio molitor L. J. Nat. Hist. 29:649-651.

DELBECQUE, J.P., CONNAT, J.L. and LAFONT, R. 1988. Polar and apolar metabolites of ecdysteroids during the metamorphosis of Tenebrio molitor. J. Insect Physiol. 34:619-624.

DETTNER, K. 1993. Dabbing and shooting of benzo- and naphthoquinone secretions: defensive strategies of bark-inhabiting aleocharine (Col.: Staphylinidae) and tenebrionid (Coleoptera: Tenebrionidae) beetle larvae. J. Chem. Ecol. 19:1337-1354.

BIBLIOGRAPHY - TENEBRIO

DOLCI, M. and ARZONE, A. 1979. New juvenile hormone analogues and their activity on Tenebrio molitor L. pupae. Annali della Facolta di Scienze Agrarie della Universita degli Studi di Torino. 1979, 12, 471-476.

DOLCI, M. and ARZONE, A. 1983. Juvenile hormone activity of new derivatives of 5-hydroxy-1,3-benzoxathiole. Convegno "Aspetti Ecologici ed Ambientali", Piacenza 2-3 Giugno 1983. 1083:201-210. Turin, Italy; Instituto de Entomologia Agraria e Apicoltura.

EASTON, C.M. and HORWATH, K.L. 1994. Characterization of primary cell cultures derived from fat body of the beetle, Tenebrio molitor, and the immunolocalization of a thermal hysteresis protein in vitro. J. Insect Physiol. 40:537-547.

ELSINGA, R.J. 1994. The use of legs as grasping structures during prey capture and feeding by the centipede Scolopendra viridis Say (Chilopoda: Scolopendridae). J. Kansas Entomol. Soc. 67:369-372.

ENRIZ, R.D., BALDONI, H.A., JAUREGUI, E.A., SOSA, M.E., TONN, C.E. and GIORDANO, O.S. 1994. Structure-activity relationship of clerodane diterpenoids acting as antifeedant agents. J. Agric. Food Chem. 42:2958-2963.

FABRE, B., VELOURS, J., ETIENNE, G. LEGENDRE, F. and TIRABY, G. 1993. CL307-24, a new antibiotic complex from Saccharopolyspora aurantiaca sp. nov. II. Physico-chemical and biological properties J. Antibiotics 46:1421-1427.

FARKAS, R. 1982. Induction of haemocytic mitoses by ecdysterone in larvae of Galleria mellonella L. and Tenebrio molitor L. Entomologicke Problemy 17:13-31.

FARKAS, R. 1984. The effects of 20-hydroxyecdysone on haemolymph pressure pulsations in Tenebrio molitor. J. Insect Physiol. 30:797-802.

FAVA, A. 1987. The effect of treatment with juvenile hormone analogue on the progeny of treated females of Tribolium confusum Jacq. Duval (Coleoptera: Tenebrionidae). Redia 70:421-432

FELL, R.D. 1990. The qualitative and quantitative analysis of insect haemolymph sugars by high performance thin-layer chromatography. Comp. Biochem. Physiol. A, Comp. Physiol. 95:539-544.

FERREIRA, C., BELLINELLO, G.L. RIBEIRO, A.F. and TERRA, W.R. 1990. Digestive enzymes associated with the glycocalyx, microvillar membranes and secretory vesicles from midgut cells of Tenebrio molitor larvae. Insect Biochem. 20:839-847.

FRANCOIS, J. 1985. Collagen synthesis in the midgut connective sheath of the mealworm Tenebrio molitor L. (Insecta, Coleoptera) during metamorphosis. International J. Invert. Reprod. and Dev. 8:169-174.

FRANCOIS, J. 1989. The glycosaminoglycans of midgut connective sheath during development of the mealworm Tenebrio molitor. Comp. Biochem. and Physiol. B, Comp. Biochem. 93:93-98.

FUKAMI, J.I. 1986. Effects of domoic and kainic acids on the neuromuscular junction of mealworm, Tenebrio molitor (Coleoptera: Tenebrionidae). Applied Entomol.21:179-181.

FURUYA, K., LIAO, S., REYNOLDS, S.E., OTA, R.B., HACKETT, M. and SCHOOLEY, D.A. 1993. Isolation and identification of a cardioactive peptide from Tenebrio molitor and Spodoptera eridania. Biol. Chem. Hoppe-Seyler. 374:1065-1074.

GADE, G. 1984. Adipokinetic and hyperglycaemic factors of different insect species: separation with high performance liquid chromatography. J. Insect Physiol. 30:729-736.

GADE, G. 1986. Studies on the hypertrehalosaemic factor from the corpus cardiacum/corpus allatum complex of the beetle Tenebrio molitor. Comp. Biochem. and Physiol., A Comp. Physiol. 91:333-338.

GADE, G. S. 1991. Hyperglycaemia or hyper trehalosaemia? The effect of insect neuropeptides on haemolymph sugars. J. Insect. Physiol. 37:483-487.

GADE, G. 1993. Structure-activity relationships for the lipid-mobilizing action of further bioanalogues of the adipokinetic hormone/red pigment-concentrating hormone family of peptides. J. Insect Physiol. 39:375-383.

GADE. G. 1994. Isolation and structure elucidation of a neuropeptide from three species of Namib Desert tenebrionid beetles. S. African J. Zool. 29:11-18.

GADE, G. and ROSINSKI, G. 1990. The primary structure of the hypertrehalosemic neuropeptide from tenebrionid beetles: a novel member of the AKH/RPCH family. Peptides. 11:455-459.

GARCIA-MAROTO, F., CARBONERO, P. and GARCIA-OLMEDO, F. 1991. Site-directed mutagenesis and expression in Escherischia coli of WMAI-1, a wheat monomeric inhibitor of insect alpha-amylase. Plant Mol. Biol. Int. J. Mol. Biol. Biochem. Genet. Eng. 17:1005-1011.

GIBBS, A., and CROWE, J.H. 1991. Intra-individual variation in cuticular lipids studied using Fourier transform infrared spectroscopy. J. Insect Physiol. 37:743-748.

GLEADALL, I.G., HARIYAMA, T., TSUKAHARA, Y. 1989. The visual pigment chromophores in the retina of insect compound eyes, with special reference to the Coleoptera. J. Insect Physiol. 35:787-795.

GOLDRING, J.P.D. and READ, J.S. 1993. Insect acetyl CoA carboxylase: activity during the larval, pupal and adult stages of insect development. Comp. Biochem. Physiol., B Comp. Biochem. 106:855-858.

GOMEZ, L., SANCHEZ-MONGE, R., GARCIA-OLMEDO, F. and SALCEDO, G. 1989.Wheat tetrameric inhibitors of insect alpha-amylase alloploid heterosis at the molecular level. Proceedings Natl. Acad. Sci. USA 86:3242-3246.

GOMEZ, L., SANCHEZ-MONGE, R., LOPEZ-OTIN, C., and SALCEDO, G. 1991. Wheat inhibitors of heterologous alpha-amylases. Characterization of major components from the monomeric class. Plant Physiol. 96:768-774.

GONG, G.J., WANG, Y.C. and YOU, Z.P. 1988. Effects of diflubenzuron on internal organs and tissues in black cutworm, armyworm and yellow mealworm. Acta Entomologica Sinica. 31:358-363.

GORDNIER, P.M. BREZNER, J. and TANENBAUM, S.W. 1987. Chitin metabolism: not a target of avermectin/milbemycin activity in insects. J. Antibiotics 40:110-112.

GRIMNES, K.A. and HAPP, G.M. 1985. Partial characterization of the D group of proteins of the tubular accessory glands of Tenebrio molitor. Insect Biochem. 15:181-186.

GRIMNES, K.A. and HAPP, G.M. 1986. A monoclonal antibody against a structural protein in the spermatophore of Tenebrio molitor (Coleoptera). Insect Biochemistry 16:635-643.

HADERSPECK, W. and HOFFMAN, K.H. 1991. Thermal properties for digestive enzymes of a sub-Antarctic beetle, Hydromedion sparsutum (Coleoptera, Perimylopidae) compared to those in two thermophilic insects. Comp. Biochem. Physiol A Comp. Physiol. 100:595-598.

HAEBEL, S., JENSEN, C., ANDERSEN, S.O. and ROEPSTORFF, P. 1995. Isoforms of a cuticular protein from larvae of the meal beetle, Tenebrio molitor, studied by mass spectrometry in combination with Edman degradation and two-dimensional polyacrylamide gel electrophoresis. Protein Sci. 4:394-404.

HALARNKAR, P.P. and SCHOOLEY, D.A. 1995. A comparative catabolism study of isoleucine by insect and mammalian tissues. Comp. Biochem. Physiol. B. Comp. Biochem. 1108: 357-365.

HANSEN, T.N., and BAUST, J.G. 1988.Differential scanning calorimetric analysis of antifreeze protein activity in the common mealworm, Tenebrio molitor. Biochimica et Physica Acta P, Protein Structure and Molec. Enzymol. 957:217-221.

HAPP, G.M. 1992. Maturation of the male reproductive system and its endocrine regulation. Annual Rev. Entomol. 37:303-320.

HAPP, G.M. and LENOIR-ROUSSEAUX, J.J. 1988. Control points of the cell cycle in a primary in vitro culture under the influence of 20-OH ecdysone of the coleopteran Tenebrio. Comptes Rendus des Seances de la Societe de Biologie et de ses Filiales, France 182:400-408.

HARNISH, D.G. and WHITE, B.N. 1982. Insect vitellins: identification, purification and characterization from eight orders. J. Exp. Zool. 220:1-10.

HATT, P.J., MORINIERE, M., OBERLANDER, H., and PORCHERON, P. 1994. Roles of insulin and ecdysterone in differentiation of an insect cell line of epidermal origin. In vitro Cell Dev. Biol. 30A:717-720.

HIDOH, O. and FUKAMI, J.I. 1991. The action of Joro spider toxin at the neuromuscular junctions of the mealworm, Tenebrio molitor L. (Coleoptera: Tenebrionidae). Appl. Entomol. and Zool. 26:420-422.

HIDOH, O. and FUKAMI, J.I. 1992. Neuromodulatory effects of octopamine agonists at neuromuscular junctions in the mealworm, Tenebrio molitor L. (Coleoptera: TEnebrionidae). Appl. Entomol Zool. 27:471-477.

HILKER, M. and SCHULZ, S. 1991. Anthraquinones in different developmental stages of Galeruca tanaceti (Coleoptera, Chrysomelidae). J. Chem. Ecol. 17:2323-2332.

HOFMEISTER, P.,KUNAST, C. and LANG, A. 1988. N-Benzoyl-N'phenoxyphenyl-and N-benzoyl-N'-carboxyphenyl ureas: a review of their chemical synthesis and biological profiles. Pesticide Sci. 22:221-230.

HOWARD, J.J. 1987. Biological activities of the secretion of Edessa rufomarginata, a Neotropical pentatomid. 1987. Revista de Biologia Tropical 35:139-141.

HOWARD, J.J. and MUELLER, D.D. 1987. Defensive chemistry of the flour beetle Tribolium brevicornis (LeC.): presence of known and potential prostaglandin synthetase inhibitors. J. Chem. Ecol. 13:1707-1723.

HOWARD, R.W. and STANLEY-SAMUELSON, D.W. 1990. Phospholipid fatty acid composition and arachidonic acid metabolism in

selected tissues of adult Tenebrio molitor (Coleoptera: Tenebrionidae). Annals Entomol. Soc. Amer. 83: 975-981.

HOWARD, R.W., WITTERS, N.A. and STANLEY-SAMUELSON, D.W. 1992. Phospholipid fatty acid composition and distribution patterns of prostaglandins in malpighian tubules of the yellow mealworm (Coleoptera: Tenebrionidae). Ann. Entomol. Soc. Am. 85:489-498.

ISAACSON, L. and NICOLSON, S. 1989. A reappraisal of the oil-gap technique for the measurement of transtubular potentials for insect epithelia. J. exp. Biol. a141:429-440.

JOHNSON, L.B. and HOFFMAN, R.A. 1985. Interaction of diet and photoperiod on growth and reproduction in male golden hamsters. Growth 49:380-399.

KALMUS, G.W. and OAKLEY, W.E. Jr. 1988. The influence of oxidizing agents on macromolecular synthesis for chitinous material. Invert. Reproduction and Dev. 34:103-110.

KALTENHAUSER, U., KELLERMANN, J., ANDERSSON, K., LOTTSPEICH F. and HONEGGER, H.W. 1995. Purification and partial characterization of bursicon, a cuticle sclerotizing neuropeptide in insects, from Tenebrio molitor. Insect Biochem. and Molec. Biol. 25:525-533.

KIRIISHI, X., ROUNTREE, D.B., SAKURAI, X. and GILBERT, L.I. 1990. Prothoracic gland synthesis of 3-hydroecdysone and its hemolymph 3-beta-reductase mediated conversion to ecdysone in representative insects. Experientia 46: 716-721.

KONOPINSKA, D., ROSINSKI, G., LESICKI, A., JUJAK, P., SOBOTKA, W., and BARTOSZ-BECHOWSKI, H. 1988. New N-terminal modified proctolin analogues: synthesis and their cardioexcitatory effect on insects. Int'l J. Peptide and Protein Res. 31: 463-467.

KONOPINSKA, D., ROSINSKI, G., BARTOSZ-BECHOWSKI, H., LESICKI, A., SUJAK, P. and SOBOTKA, W. 1990. Role of guanidine group at the N-terminal proctolin chain in cardioexcitatory effects in insects. Internat. J. Peptide and Protein Res. 35:12-16.

KRAMER, S.J., TOSCHI, A., MILLER, C.A., KATAOKA, H., QUISTAD, G.B., LI, J.P., CARNEY, R.L. and SCHOOLEY, D.A. 1991. Identification of an allatostatin from the tobacco hornworm Manduca sexta. Proc. Natl. Acad. Sci. USA.88:9458-9462.

KOZHANOVA, N.I. and NEMEC, V. 1991. Comparison of the effects of hydroprene and precocene II on oogenesis in the mealworm, Tenebrio molitor (Coleoptera: Tenebrionidae). Acta Entomol. Bohemoslovaca 88:281-285.

KROEKER,E.M. and Walker, V.K. 1991. Dsp28: a desiccation stress protein in Tenebrio molitor hemolymph. Arch. Insect Biochem. Physiol. 17:169-182.

KROEKER, E.M. and WALKER, V.K. 1991. Developmental expression and hormonal regulation of a desiccation stress protein in Tenebrio molitor. Insect Biochem. 21:631-640.

KROUGH, T.N., SKOU, L., ROEPSTOFF, P., ANDERSEN, S.O. and HOJRUP, P. 1995. Primary structure of proteins from the wing cuticle of the migratory locust, Locusta migratoria. Insect Biochem. Mol. Biol. 25:319-329.

KUUSIK, A., METSPALU, L., HIIESAAR, K. KOGERMAN, A. and TARTES, U. 1993. Changes in muscular and respiratory activity patterns in yellow mealworm (Tenebrio molitor) and greater wax moth (Galleria mellonella) pupae caused by some plant extracts, juvenile hormone analogues and a pyrethroid. Eesti Pollumajandusulikooli Taimekaitse Inst., Riia 12,2400 TArtu, Estonia. Eesti-Teaduste Akadeemia Toimetised, Biloogia 42:94-107.

LANGE, A.B., ORCHARD, I. and KONOPINSKA, D. 1993. The effects of selected proctolin analogues on contractions of locust (Locusta migratoria) oviducts. J. Insect Physiol. 39:347-351.

LAZARO, A., SANCHEZ-MONGE, R., SALCEDO, G., PAZ-ARES, J. CARBONERO, P., and GARCIA-OLMEDO, F. 1988. A dimeric inhibitor of insect alpha-amylase from barley. Cloning of the cDNA and identification of the protein. European J. Biochem. 172:129-134.

LEMOINE, A. and DELACHAMBRE, J. 1986. A water-soluble protein specific to the adult cuticle in Tenebrio. Its use as a marker of a new programme expressed by epidermal cells. Insect Biochem. 16:483-489.

LEMOINE, A., MILLOT, C., CURIE, G. and DELACHAMBRE, J. 1989. A monoclonal antibody against an adult-specific cuticular protein of Tenebrio molitor (Insecta, Coleoptera). Developmental Biol. 136:546-554.

LEMOINE, A., MILLOT, C., CURIE, G. and DELACHAMBRE, J. 1990. Spatial and temporal variations in cuticle proteins as revealed by monoclonal antibodies, immunoblotting analysis and ultrastructural immunolocalization in a beetle, Tenebrio molitor. Tissue and CEll 22: 177-189.

LENOIR-ROUSSEAUX, J.J., ARPAGAUS, M. and TOUTANT, J.P. 1988.Separation and characterization of hydrophilic and detergent-interacting components of brain acetylcholinesterase from Tenebrio molitor L. (Insecta,

Coleoptera). Comp. Biochem Physiol.. B Comp. Biochem. 90:29-35.

LENOIR-ROUSSEAUX, J.J., DELBECQUE, J.P. and GAUTRON, J. 1994. Developmental changes and acetylcholinesterase activity in the metamorphosing brain of Tenebrio molitor: correlation to ecdysteroid titers. Arch. Insect Biochem. Physiol. 25:207-222.

LENOIR-ROUSSEAUX, J.J. and GAUTRON, J. 1986. Functional correlation in vitro of acetylcholinesterase and ecdysone in the genital accessory gland of Tenebrio <molitor>. Comptes Rendus des Seances de la Societe de Biologie et de ses Filiales, France 180:704-712.

LESCHEN, R.A.B. and CUTLER, B. 1994. Cuticular calcium in beetles (Coleoptera: Tenebrionidae: Phrenapetinae). Annals Entomol. Soc. Amer. 87:918-921.

LIGHTON, J.R.B. 1991. Ventilation in <ten species of> Namib desert tenebrionid beetles: mass scaling and evidence of a novel quantized flutter phase. J. Exp. Biol. 159:249-268.

LOHAR, M.K. and WRIGHT, D.J. 1993. Changes in the lipid content in hemolymph, fat body and oocytes of malathion treated Tenebrio molitor L. adult females. Pakistan J. Zool. 25:57-60.

LOUDON, C. 1989. Tracheal hypertrophy in mealworms: design and plasticity in oxygen supply systems. J. Exp. Biol. 147:217-235.

LUCO, J.M., SOSA, M.E., CESCO, J.C. TONN, C.E. and GIORDANO, O.S. 1994. Molecular connectivity and hydrophobicity in the study of antifeedant activity of clerodane diterpenoids. Pesticide Sci. 41:1-6.

MACHIN, J. and O'DONNELL, M.J. 1991. Rectal complex ion activities and electrochemical gradients in larvae of the desert beetle, Onymacris: comparisons with Tenebrio. J. Insect Physiol. 37:829-838.

MAHAJAN, R.K., GUPTA, N., UPPAL., S.K. and BHARDWAJ, R. 1987. Synthesis of juvenile hormone activities of some aza aromatic juvanione analogues. Indian J. Exp. Biol. 25:86-89.

MARCO, M.P., PASCUAL, N., BELLES, X. CAMPS, F. and MESSEGUER, A. 1990. Ecdysteroid depletion by azadirachtin in Tenebrio molitor pupae. Pesticide Biochem. Physiol. 38:60-65.

MCLEAN, H. and CAVENEY, S. 1993. Na+-dependent medium-affinity uptake of L-glutamate in the insect

epidermis. J. Comp. Physiol. B Biochem. Syst. Environ. Physiol. 163:297-306.

MILLS, F.D., MILLS, G. and BROWN, R.T. 1989. Synthesis of methylene-linked pyrethroids. J. Agric. and Food Chem. 37:501-507.

MIYAMOTO, T., ODA, M., YAMAMOTO, D., K, ANEKO, J., USUI, T. and FUKAMI, J. 1985. Agonistic action of synthetic analogues of quisqualic acid at the insect neuromuscular junction. Arch. Insect Biochem. Physiol. 2:65-73.

MOON, H.J., LEE, S.Y., KURATA, S., NATORI, S. and LEE, B.L. 1994. Purification and molecular cloning of cDNA for an inducible antibacterial protein from larvae of the coleopteran, Tenebrio molitor J. Biochem. 116:53-58.

MORALEJO, M., GARCIA-CASADO, G., SANCHEZ-MONGE, R., LOPEZ-OTIN, C., and Molina, c. 1993. Barley tetrameric inhibitor of insect alpha-amylases. Characterization of an allelic variant of the BTAI-CMb subunit. J. Cereal Sci. 17:107-113.

MORALEJO, M., GARCIA-CASADO, G., SANCHEZ-MONGE, R., LOPEZ-OTIN, C., ROMAGOZA, I., MOLINACANO, J.L. and SALCEDO, G. 1993. Genetic variants of the trypsin inhibitor from barley endosperm show different inhibitory activities. Plant Sci. Limerick 89:23-29.

NAHAJAN, R.K., GUPTA, N., UPPAL, S.K. and BHARDWAJ, R. 1987. Synthesis and juvenile hormone activities of some aza aromatic juvabione analogues. Indian J. Exp. Biol. 25:86-89.

MASSARDO, P., BETTARINI, F., PICCARDI, F. and LONGONI, A. 1983. Synthesis and juvenile hormone activities of some new ether derivatives of hydroquinone. Pesticide Sci. 14:461-469.

MTIOUI, A., GOURDOUX, L., FOURNIER, B. and MOREAU, R. 1993. Effects of intestinal insulin-like peptide on glucose catabolism in mealworm larval fat body in vitro: dependence on extracellular Ca2+ for its stimulatory action. Arch. Insect Biochem Physiol. 24:113-128.

MTIOUI, A., BAHJOU, A., GOURDOUX, L. and MOREAU, R. 1994. Comparison of hormonal effects on glucose metabolism in Tenebrio molitor larval fat body, muscle and brain tissues. Comp. biochem. Physiol. 108A:97-105.

NAKAYAMA, A. 1990. Computer-aided molecular design and structure-activity relationship of pesticides. J. Pesticide Sci. 15:481-494.

BIBLIOGRAPHY - TENEBRIO

NATHANSON, J.A. 1984 Caffeine and related methylxanthines: possible naturally occurring pesticides. Science, USA. 226:184-187.

NEMEC, V., KODRIK, D., MOTOLIN, S. and LAUFER, H. 1993. Juvenile hormone-like effects of retinoic acid in insect metamorphosis, embryogenesis and reproduction. J. Insect Physiol. 39:1083-1093.

NICOLSON, S. 1992. Excretory function in a vapour absorbing insect. J. Insect Physiol. 38:139-146.

NICOLSON, S. 1992. Excretory function in Tenebrio molitor: fast tubular secretion in a vapour-absorbing insect . J. Insect Physiol. 38:139-146.

NICOTRA, F., RONCHETTI, F., RUSSO, G. and TOMA, L. 1985. Conversion of clionasterol into both fucosterol and isofucosterol by the insect Tenebrio molitor. Experientia 41:65-66.

NOBLE-NESBITT, J. 1990. Cellular differentiation in relation to water vapour absorption in the rectal complex of the mealworm, Tenebrio molitor. Tissue and Cell 22:925-940.

O'DONNELL, M.J. 1988. Potassium channel blockers unmask electrical excitability of insect follicles. J. Exp. Zool. 245:137-143.

O'DONNELL, M.J. and MACHIN. 1991. Ion activities and electrochemical gradients in the mealworm rectal complex. J. Exp. Biol. 155:375-402.

OUELETTE, Y., and CAVENEY, S. 1990. Dose- and time-dependent synthesis of 20-hydroxyecdysone modulated polypeptides in the epidermis of Tenebrio molitor. Insect Biochem. 20:37-50.

OUELETTE, Y. and CAVENEY, S. 1990. 20-Hydroecdysone control of the synthesis of putative calcium-binding proteins in the epidermis of Tenebrio molitor. Insect Biochem. 20:51-64.

PAESEN, G.C. and HAPP, G.M. 1994. cDNA inferred amino-acid sequence of a C protein, a heparin- binding, basic secretion product of the tubular accessory sex glands of the mealworm beetle, Tenebrio molitor. Insect Biochem. Mol. Biol. 24:21-27.

PAESEN , G.C. and HAPP, G.M. 1995. The B proteins secreted by the tubular accessory sex glands of the male mealworm beetle, Tenebrio molitor, have sequence similarity to moth pheromone-binding proteins. Insect Biochem Mol Biol. 25:401-408.

PAESEN, G.C., SCHWARTZ, M.B., PEFEROEN, M., WEYDA, F. and HAPP, G.M. 1992. Amino acid sequence of Sp23, a structural protein of the spermatophore of the mealworm, Tenebrio molitor. J. Biol.a Chem. 267:18852-18857.

PAESEN, G.C., WEYDA, F. and HAPP, G.M. 1992. Deduced sequences show multiple repeats in two D proteins from the tubular accessory glands of Tenebrio molitor. Insect Biochem. Mol. Biol. 22:387-398.

PARADISE, C.J. and STAMP, N.E. 1990. Variable quantities of toxic diet cause different degrees of compensatory and inhibitory responses by juvenile praying mantids. Entomol. Experimentalis et Applicata 55:213-222.

PASCUAL, N., MARCO, M.P. and Belles. 1990. Azadirachtin induced imaginal moult deficiencies in Tenebrio molitor L. (Coleoptera: Tenebrionidae). J. stored Prod. Res. 26:53-57.

PESCHKE, K. and EISNER, T. 1987. Defensive secretion of the tenebrionid beetle, Blaps mucronata: physical and chemical determinants of effectiveness. J. Comp. Physiol., A Sensory, Neural, and Behavioral Physio l. 161:377-388.

POLANOWSKI, A., WILUSZ, T., BLUM, M.S., ESCOUBAS, P., SCHMIDT, J.O. and TRAVIS, J. 1992. Serine proteinase inhibitor profiles in the hemolymph of a wide range of insect species. Comp. Biochem. Physiol. B, Comp. Biochem. 102:757-760.

PRACROS, P., and COURANJOU. 1988. Measurement of the biological activity of lucerne saponins using mealworm larvae: Tenebrio molitor L. (Coleoptera, Tenebrionidae). II. Research on the saponin fractions responsible for the observed antifeedant effect. Agronomie 8:793-799.

PRACROS, P., COURANJOU, C. and MOREAU, R. 1992. Effects on growth and respiration due to the ingestion of the rapeseed meal glucosinolates in young larvae of Tenebrio molitor. Comp. Biochem. Physiol A Comp. Physiol. 103:391-395.

PROVANSAL-BAUDEZ, A. and SLAMA, K. 1985. Effect of perisympathetic organs on extracardiac pulsations in Tenebrio molitor (Coleoptera). Acta Entomol. Bohemoslovaca 82:161-169.

PUNZO, F. and Kirk, a. 1992. Detoxifying enzymes and the effects of temperature on the toxicity of malathion to Oncopeltus fasciatus (Heteroptera) and Tenebrio molitor (Coleoptera).Comp. Biochem. Physiol. C. Comp. Pharmacology and Toxicol. 103:-383-386.

QUENNEDEY, A., ARIBI, N., EVERAERTS, C. and DELBECQUE, J.P. 1995. Post-embryonic development of Zophobas atratus Fab.

(Coleoptera: Tenebrionidae) under crowded or isolated conditions and effects of juvenile hormone analogues. J. Insect Physiol. 41:143-152.

QUENNEDEY, A., QUENNEDEY, B., DELBECQUE, J.P. and DELACHAMBRE, J. 1983. The in vitro development of the pupal integument and the effects of ecdysteroids in Tenebrio molitor (Insecta, Coleoptera). Cell and Tissue Res. 232:403-511.

RABINDRA, R.J., BALASUBRAMANIAN, M. and JAYARAJ, S. 1988. Physiological changes induced by Farinocystis tribolii Weiser in the larvae of Tribolium castaneum (Herbst). Entomon. 13:201-206.

REDDY, G. and KUMARAN, A.K. 1985. The effect of juvenile hormone and its antagonists on JH esterase activity in Tenebrio molitor. Entomol. Exp. et Applicata 37:213-218.

REDKOZUBOV, A.E. and BELOUSOVA, T.A. 1994. The single channel-initiated spikes in receptor cell of sensilla chetica on flour beetle antennae. Biologicheskie Membrany 11:389-392.

REN, J.C., MA, Y. and CHANG, J.T. 1988. Microscopic observation on the histopathological changes of cuticle induced by diflubenzuron in two insect larvae. Acta Entomologica Sinica 31:366-370.

RIVERS, D.B., HINK, W.F. and DENLINGER, D.L. 1993. Toxicity of the venom from Nasonia vitripennis (Hymenoptera: Pteromalidae) toward fly hosts, nontarget insects, different developmental stages, and cultured insect cells. Toxicon 31:755-765.

RO, A.I., and NILSSON, D.E. 1993. Sensitivity and dynamics of the pupil mechanism in two tenebrionid beetles. J. comp. Physiol. 173:455-462.

RODRIGUEZ, W. 1987. Photoperiod effects on the haemolymph proteins and vitellogenin of Tenebrio molitor as correlated with juvenile hormone and precocene treatment. Dissertation Abstracts International B. Sciences and Engineering 47:8, 3261; 202 pp. Thesis University of Cincinnati, USA.

RONDOT, I., BOUHIN, H., CHARLES, J.P. MATHELIN, J. and DELACHAMBRE, J. 1995.Cuticular protein genes in Tenebrio molitor (Coleoptera: Tenebrionidae).European J. Entomol. 92:211-214.

ROSINSKI, G. and GADE, G. 1988. Hyperglycaemic and myoactive factors in the corpora cardiaca of the mealworm, Tenebrio molitor. J. Insect Physiol. 34: 1035-1042.

RYAN, R.O., SCHMIDT, J.O. and LAW, J.H. 1984. Chemical and immunological properties of lipophorins from seven insect orders. Arch. Insect Biochem. and physiol. 1:375-383.

SAKAL, E., APPLEBAUM, S.W. and BIRK, Y. 1992. Detection and determination of Locusta migratoria trypsin by radioimmunoassay. Arch Insect Biochem. Physiol. 20:157-164.

SCUTT, S. and Nuorteva, p. 1983. Decrease in activity caused by methyl mercury in Tenebrio molitor (L.) (Col., Tenebrionidae). Acta Entomol. Fennica. 41:78-81.

SEGURA-CORREA, R., MATA, R., ANAYA A.L., HERNANDEZ-BAUTISTA, B., VILLENA, R., SORIANO-GARCIA, M., BYE, R. and LINARES, E. 1993. New tetranortriterpenoids from Swietenia humilis. J. Nat. Prod. 56:1567-1574.

SEVALA, V.M., SEVALA, V.L. and LOUGHTON, B.G. 1993. Insulin-like molecules in the beetle Tenebrio molitor. Cell and Tisue REs. 273:71-77.

SHINBO, H. and HAPP, G.M. 1989. Effects of ecdysteroids on the growth of the post-testicular reproductive organs in the silk worm, Bombyx mori. J. Insect Physiol. 35:855-864.

SHINBO, H., YAGINUMA, T. and HAPP, G.M. 1987. Purification and characterization of a proline-rich secretory protein that is a precursor to a structural protein of an insect (Tenebrio molitor) spermatophore. J. Biol. Chem. 262:4794-4799.

SLAMA, K. 1986. Cholinergic control of extracardiac pulsations in insects. Experientia 42:54-56.

SLAMA, K. 1987. Effect of juvenile hormone on the automatic nervous system. Insect Biochem. 17:1103-1107.

SLAMA, K., KONOPINSKA, D. and SOBOTKA W. 1993.Effects of proctolin on autonomic physiological function in insects. European J. Entomol. 90:23-35.

SOLTANI, N. 1990. Action of diflubenzuron and 20-hydroxyecdysone on haemolymphatic carbohydrate and protein in pupae of Tenebrio molitor L. (Coleoptera: Tenebrionidae). Annales de la Societe Entomologique de France. 26:575-584.

SOLTANI, N., DELBECQUE,, J.P. and DELACHAMBRE, J. 1983. Penetration and insecticidal activity of diflubenzuron in Tenebrio molitor pupae. Pesticide Sci. 14:615-622.

SOLTANI, N., BESSON, M.T. and DELACHAMBRE, J. 1984. Effects of diflubenzuron on the pupal-adult development of Tenebrio

molitor L. (Coleoptera: Tenebrionidae): growth and development, cuticle secretion, epidermal cell density, and DNA synthesis. Pesticide Biochem. and Physiol. 21:256-264.

SOLTANI, N., DELACHAMBRE, J. and DELBECQUE. 1989. Stage specific effects of diflubenzuron on ecdysteroid titers during the development of Tenebrio molitor: evidence for a change in hormonal source. General and Comparative Endocrinol. 76:350-356.

SOLTANI, N., DELBECQUE, J.F. DELACHAMBRE, J. MAUCHAMP, B. 1984. Inhibition of ecdysteroid increase by diflubenzuron in Tenebrio molitor pupae and compensation of diflubenzuron effect on cuticle secretion by 20-hydroxyecdysone. International J. Invert. Reprod. and Dev. 7:323-332.

SOLTANI, N., OUENNEDEY, A., DELBECQUE, J.F. and DELACHAMBRE, J. 1987. Diflubenzuron-induced alterations during in vitro development of Tenebrio molitor pupal integument. Arch. Insect Biochem. Physiol. 5:201-209.

SPRINGHETTI, A. 1985. Renewal of egg viability in Tenebrio molitor L. (Coleoptera: Tenebrionidae treated) with a juvenile hormone analogue. Atti XIV Congresso Nazionale Italiano di Entomologia sotto gli auspici dell' Accademia Nazionale Italiana di Entomolgia, della Societa Entomologica Italiana e della International Union of Biological Sciences, Palermo - Erice - Bagheria, 28 maggio-1 giugno 1985. 1985. 525-530. Palermo, Italy; Accademia Nazionale Italiana di Entomologia.

SPRINGHETTI, A. and FONTANA, F. 1982. Delayed effects of a juvenile hormone analogue orally administered to Tenebrio molitor L. adults (Coleoptera: Tenebrionidae). Redia 65: 285-291.

SPRINGHETTI, A. and FRANCHI, S. 1984. Temporary effect of fertility of a JH-analogue given orally to Tenebrio molitor L. (Coleoptera: Tenebrionidae). annals Entomol. 2:39-42.

STOREY, K.B., KEEFE, D., KOURTZ, L. and STOREY, J.M. 1991. Glucose-6-phosphate dehydrogenase in cold hardy insects: kinetic properties, freezing stabilization, and control of hexose monophosphate shunt activity. Insect Biochem. 21:157-164.

SUGUMARAN, M., KUNZICZ, H., BEDELL-HOGAN, D., and SCHINKMANN, K. 1989. Further studies on the mechanism of N-acetyldopamine by the cuticular enzymes from Sarcophaga bullata and other insects. Arch. Insect Biochem. and Physiol. 11:109-125.

SVOBODA, J.A. and LUSBY, W.R. 1994. Variability of sterol utilization in stored-products insects. Experientia 50:72-74.

SZYKULA, J. and ZABZA, A. 1987. Insect growth regulators, XVIII. The syntheses of doxyl nitroxides juvenoids. Liebigs Annalen der Chemie 1987, No. 8, 709-710.

TAKIGUCHI, M., NIIMI, T., SU, Z.H. and YAGINUMA, T. 1992. Trehalase from male accessory gland of an insect, Tenebrio molitor. cDNA sequencing and developmental profile of the gene expression. Biochem. J. 288:19-22.

TANAKA, Y., HONDA, H., OHSAWA, K. and YAMAMOTO, I. 1986. A sex attractant of the yellow mealworm, Tenebrio molitor L., and its role in the mating behavior. J. Pesticide Sci. 11:49-55.

TANAKA, Y., HONDA, H., OHSAWA, K. and YAMAMOTO, I. 1989. Absolute configuration of 4-methyl-1-nonanol, a sex attractant of the yellow mealworm, Tenebrio molitor L. J. Pestic. Sci.

TARTES, U. and KUUSIK, A. 1994. Periodic muscular activity and its possible functions in pupae of Tenebrio molitor. Physiol. Entomol. 19:216-222.

TELLER, J..K. 1988. Kinetic properties of glutamate dehydrogenase purified from the mealworm fat body. The glutamate synthesizing direction. Comparative Biochem. and Physiol. B, Comp. Biochem. 90:329-333.

THIE, N.M.R. and HOUSEMAN, J.G. 1990.Cysteine and serine proteolytic activities in larval midgut of yellow mealworm, Tenebrio molitor l. (Coleoptera: Tenebrionidae). Insect Biochem. 20:741-744.

TOMLIN, E., MCLEAN, H. and CAVENEY, S. 1993. Active accumulation of glutamate and aspartate by insect epidermal cells. Insect Biochem. Mol. Biol. 23:561-569.

TUFAIL, N., SALEEM, M.A. and SHAKOORI, A.R. 1994. Biochemical changes in sixth instar larvae of PAK and FSS-II strains of red flour beetle, Tribolium castaneum (Herbst) (Coleoptera: Tenebrionidae) following administration of sublethal doses of a synthetic pyrethroid, bifenthrin. Pakistan, J. Zool. 26:197-206.

TUPY, J.H. and MACHIN, J. 1985. Transport characteristics of the isolated rectal complex of the mealworm Tenebrio molitor. Canad. J. Zool. 63:1897-1903.

BIBLIOGRAPHY - TENEBRIO

UGARKOVIC, D., PLOHL, M. and GAMULIN, V. Sequence variability of satellite DNA from the mealworm Tenebrio molitor. Gene 83:181-183.

USUI, T. and FUKAMI, J.I. 1984. The effects of L-glutamic acid, glutamate agonists, acetylcholine and several drugs on excitatory post-synaptic potentials at the neuromuscular junction of the larval mealworm, Tenebrio molitor Linne (Coleoptera: Tenebrionidae). Applied Entomol. and Zool. 19:151-158.

VANNINEN, I. 1990. Depletion of endogenous lipid reserves in Steinernema feltiae and Heterorhabditis bacteriophora and effect on infectivity. Proc. and Abstracts, Vth International Colloquium on Invertebrate Pathology and MIcrobial Control, Adelaide, Sustralia, 20-24 August 1990. 1990, 232. Glen Osmond, Australia; Department of Entomology, Univeristy of Adelaide.

VOGEL, W.R. 1988. The uptake and effect of the heavy metal zinc and cadmium on the flour beetle Tenebrio molitor L. (Col., Tenebrionidae) in relation to possible interactions. Zoologischer Anzeiger 220:25-32.

WASHIO, H. and MIYAMOTO. 1983. Effect of lanthanum ions on neuromuscular transmission in insects. J. Exp. Biol. 107:405-414.

WEAVER, D.K. and MCFARLANE, J.E. 1990. The effect of larval density on growth and development of Tenebrio molitor. J. Insect Physiol. 36:531-537.

WEAVER, D.K., MCFARLANE, J. E. and ALLI, I. 1990. Repellency of volatile fatty acids present in frass of larval yellow mealworms, Tenebrio molitor L. (Coleoptera: Tenebrionidae), to larval conspecifics. J. Chem. Ecol. 16:585-593.

WRIGHT, J.E. and RETNAKARAN, A. (Editors) 1987. Chitin and benzoylphenylureas. 309PP. SERIES Entomologica Vol. 38. Dordrecht, Netherlands; Dr. W. Junk Publishers.

WU, D.W., DUMAN, J.G. and XU, L. 1991. Enhancement of insect antifreeze protein activity by antibodies. Biochim. Enzymologymica et Biophysica Acta, Protein Structure and Molecular Enzymology 1076:416-420.

XU, L., DUMAN, J.G., WU, D.W., and GOODMAN W.G. 1992. A role for juvenile hormone in the induction of antifreeze protein products by the fat body in the beetle Tenebrio molitor. Comp. Biochem. Physiol. B. Comp. Biochem. 101:105-109.

YAGINUMA, T., and HAPP, G.M. 1988. Trehalase from the bean shaped accessory glands and the spermatophore of the male

mealworm beetle, Tenebrio molitor. J. Comp. Physiology, B. Biochem. and Env. Physiol. 157:765-770.

YAGINUMA, T. and HAPP, G.M. 1989. 20-Hydroxyecdysone acts in the male pupa to commit accessory glands towards trehalase production in the adult mealworm beetle (Tenebrio molitor). Gen. Comparat. Endocrinol. 73:173-185.

YAGINUMA, T., KAI, H., and HAPP, G.M. 1988. 20-Hydroxyecdysone accelerates the flow of cells into the G1 phase and the S phase in a male accessory gland of the mealworm pupa (Tenebrio molitor). Developmental Biol. 126:173-181.

YAMAMOTO, I. 1987. New insect hormone, erectin-like substances. Proc. 4th International Working Conference on Stored Product Protection, Tel Aviv, Israel, 21-26 September 1986 <edited by Donahaye, E. and Navarro, s. > 1987, 418,424. Bet Dagan, Israel; Agricultural Research Organization.

YAMAMOTO, D. 1987. Sodium inward currents through calcium channels in mealworm muscle fibers. Arch. Insect Biochem. and Physiol. 5:227-231.

YAMAMOTO, D. and ISHIKAWA. 1991. Neuromodulator octopamine attenuates extrajunctional glutamate sensitivity in insect muscle. Arch. Insect Biochem. Physiol. 18:265-272.

YAMAMOTO, D., MIYAMOTO, T., ODA, M., USUI, T. and FUKAMI, J.I. 1985. The mechanism of block of glutamate synapses by dipicolinic acid. Arch. Insect Biochem. and Physiol. 2:1-6.

YAMAMOTO, D., WASHIO, H. and FUKAMI, J.I. 1983. Evidence for a presynaptic action of chlordimeform at the insect neuromuscular junction. Archives Insect Biochem. Physiol. 1:33-39.

YODER, J.A., POLLACK, R.J. and SPIELMAN, A. 1993. An ant-diversionary secretion of ticks: first demonstration of an acarine allomone. J. Insect Physiol. 39:429-435.p

ZABZA. A. and WAWRZENCZYK, C. 1994. Insect growth regulators: XXV. Chemical approach to the correlation of dynamic structure and biological activity of juvenile hormone analogues. Acta Biochimica Polonica 41:375-384.

ZACHARIASSEN, K.E., ANDERSEN, J., KAMAU, JMZ and MALOIY , G.M.O. 1988. Water loss in insects from arid and humid habitats in East Africa. Acta Entomologica Bohemoslovaca 85:81-93.

14. SPACE AND AERIAL ECOLOGY

15. SPECIATION

CANO, R.J., POINAR, H.N., PIENIAZEK, N.J., ACRA, A. and POINAR, G.O. Jr. 1995. Amplification and sequencing of DNA from a 120-135 million year-old weevil. Nature 363:536-538.

CARRILLO, J., HERNANDEZ, E.C., NOGALES, M., DELGADO, G., GARCIA, R. and RAMOS, 1994. Geographic variation in the spring diet of Falco tinnunculus on the islands of Fuerteventura and El Hierro (Canary Islands). Bonner Zoologische beitraege 45:39-46.

CHRISTIANSEN, T.A. and LOCKWOOD, J.A. 1988. Winter arthropods in selected habitats of northern mixedgrass prairie. Pan-Pacific Entomol. 64:127-130.

DRINKWATER, T.W., GILIOMEE, J.H. and PRINGLE, K.L. 1990. The geographical distribution of false wireworms, Somaticus species (Coleoptera: Tenebrionidae) associated with maize in South Africa. J. Entomol. Soc. South Africa 53:127-136.

DZHAMBAZISHVILI, M. Ya. and GELOVANI, L.V. 1983. Vertical-zonal distribution of darkling beetles (Coleoptera, Tenebrionidae) of the Lagodekhi Reserve. In: Fauna i ekologiya bespozvonochnych zhivotnykh Gruzii (edited by Gelovani, L.V.). 1983:96-103. Tbilisi, USSR; "Metsniereba".

EBERHARD, W.G. and GUTIERREZ, E.E. 1991. Male dimorphisms in beetles and earwigs and the question of developmental constraints. Evolution 45:18-28.

FERRER, J. 1988. The black beetle Martianus dermestoides (Chevrolat 1878) found in Skane. Entomolgisk Tidskrift 109:43-45

GOOD, J.A. and SLEEMAN, D.P. 1988. Extensions in the range of two pest species: Leptocera caenosa (Rondani) (Diptera: Sphaeroceridae) and Alphitobius diaperinus (Panzer) (Coleoptera: Tenebrionidae). Irish Naturalists' Journal. 22:501.

MARCUZZI, G. 1987. Biogeographical observations on the Tenebrionidae of the Dalmatian islands (Coleoptera : Heteromera). Bulletin de la Societe Zoologique de France 112:81-104.

MELLINI, E., and VERENINI. 1986. Biological notes on insects

of the semi-arid areas of the Bolivian highlands during spring. Bollettino dell'Instituto di Entomologia della Universita degli Stuci di Bologna. 40:121-149.

PARMENTER, R.R. and MACMAHON, J.A. 1988. Factors limiting populations of arid-land darkling beetles (Coleoptera: Tenebrionidae): predation by rodents. Environmental Entomol. 17:280-286.

PATEL, N.H. 1994. The evolution of arthropod segmentation: insights from comparisons of gene expression patterns.Development (Cambridge) 0 (SUPPL.):201-207.

THOMPSON, M., STEICHEN, J.C. and FfRENCH-CONSTANT, R.H. 1993.Conservation of cyclodienes insecticide resistance-associated mutations in insects. Insect Mol. Biol. 2: 149-154.

WELCH, R.C. 1987. A second 'wild' British record for Blaps mucronata Latr. (Col., Tenebrionidae).

6. STATISTICAL METHODS AND MATHEMATICAL MODELS

ALLSOPP, P.G. 1988. Modelling development of larvae and pupae of Pterohelaeus darlingensis Carter with Podolsky phenocurves. Australian J. Ecol. 13:411-413.

LOCKERY, K.H. and METCALFE, N.B. 1988. Cuticular hydrocarbons of adult Himatismus species and a comparison with 21 other species of adult tenebrionid beetle using multivariate analysis. Comp. Biochem. Physiol. B, Comp. Biochem. 1988 91:371-382.

17. TAXONOMIC STUDIES

ANDO, K. 1994. Two new species of the genus Hemicera Castelnau et Brulle (Coleoptera: Tenebrionidae). Transactions of the Shikoku Entomological Soc. 20.111-116.

BRENDELL, M.J.D., DACCORDI, M. and SHUTE, S.L. 1990 (1993).On the systematic position of the genus Brachyhelops Fairmaire (Coleoptera, Chrysomelidae). Bollettino del Museo Civico di Storia Naturale di Verona 17:265-276.

CHUJO, M. 1995. Gonocephalum ficifolium, a new species of Tenebrionidae from Japan (Coleoptera). Esakia 0(35):113-116.

CHUJO, H. and LEE, C.E. 1994. Trogositidae, Languriidae, Tenebrionidae and Alleculidae from Korea (incl. Chejudo Is.) (Coleoptera). Esakia 0(34):187-193.

CHUJO, H. and LEE, C.E. 1992. Tenebrionidae from Cheiudo Island, Korea (Insecta, Coleoptera). Esakia 32:321-45.

CLAVIER, H. 1994. On Enoplopus dentipes Rossi in Var (Col. Tenebrionidae). Entomologiste, (Paris) 50:345.

DAJOZ, R. 1987. The fauna of Coleoptera Tenebrionidae in the Greek islands. Bull. de la Societe Zoologique de France 1987. 112:221-231.

DAJOZ, R. 1994. New species and new localities of Coleoptera Tenebrionidae, Colydiidae, Cerylonidae, and Erotylidae in Madagascar. Nouvelle Revue d'Entomologie 11:165-182.

de ALMEIDA, M.D.and CALDAS, A. 1993 (1994). Morphometry and abundance of Phaleria testacea Say (Coleoptera, Tenebrionidae) from two beaches of Rio de Janeiro. Revista Brasileira de Zool. 10:173-178.

DOYEN, J.T. 1988. Tenebrionidae and Zopheridae of the Coleoptera).Chamela biological station and vicinity, Jalisco, Mexico (Coleoptera). Folia Entomologica Mexicana. 1988, No. 77, 211-276.

DOYEN, J.T. 1988. Descriptions of some phylogenetically important larvae of Tenebrionidae (Coleoptera). Coleopterists Bulletin 42:285-301.

DOYEN, J.T. 1995. A new genus and four new species of Coelometopini from Mesoamerica (Coleoptera: Tenebrionidae). Coleopterists Bull. 49:8-14.

DOYEN, J.T. 1993. Three new species of Lorelus from Puerto Rico (Coleoptera: Tenebrionidae). Pan-Pacific Entomol. 69: 293-296.

DOYEN, J.T., MATTHEWS, E.G., and LAWRENCE, J.F. 1989. Classification and annotated checklist of the Australian genera of Tenebrionidae (Coleoptera). Invert. Taxonomy. 1989. 3:229-260.

DOYEN, J.T. and POINAR, G.O. Jr. 1994. Tenebrionidae from Dominican amber (Coleoptera). Entomologica scandinavica 25:27-51.

EGOROV, L.V. 1991. Platyscelis Latreille, 1818 (Insecta Coleoptera): proposed designation of Tenebrio hypolithus Pallas, 1782 as the type species, so conserving Dodescelis Motschulsky, 1845. Bull. Zool. Nomenclature 48:302-304.

EGOROV, L.V. 1992. New species of tenebrionids of the tribe Platyscelidini (Coleoptera, Tenebrionidae). Entomologicheskoe Obozrenie 71:796-799.

DRINKWATER, T.W. 1991. Morphology of and key to the larvae of six Somaticus species (Coleoptera: Tenebrionidae). J. African Zoology 105:509-535.

DRINKWATER, T.W. and GILIOMEE, J.H. 1991. Rearing Somaticus species (Coleoptera: Tenebrionidae) in the laboratory. Phytophylactica. 1991. 23:87-88.

FERR, J. 1993. Description of a new genus and species of Opatrini from the Canary Islands (Coleoptera: Tenebrionidae). Nouvelle Revue d'Entomologie 10:121-125.

FERRER, J.1993. Attempt at a revision of the African and European species of the genus Gonocephalum Solier (Coleoptera, Tenebrionidae). Atti del Museo Civico di Storia Naturale di Trieste 45:59-150.

FREUDE, H. 1993. New Monommidae and Epitragini (Tenebrionidae) from the British Museum and a new key to the American Monommidae (Coleoptera, Monommidae, Tenebrionidae). Spixiana 16:213-225.

GRASER, K. 1993. Faunistic notes: 490. Observations on the behavior of Diaperis boleti (L.) (Col., Tenebrionidae). Entomologische Nachrichten und Berichte 37:136-137.

HAAS, F. 1992. Serial sectioning of insects with hard exoskeleton by dissolution of the exocuticle. Biotechnic and Histochemistry 67: 50-54.

HAITLINGER, R. 1994. Two new species of Leptus Latreille, 1796 (Acari: Prostigmata: Erythraeidae) associated with Tenebrionidae (Insecta: Coleoptera). Israel J. Entomol. 28:139-149.

HANSEN, M., KRISTENSEN, S., MAHLER, V. and PEDERSEN, J. 1991. Tenth supplement to the list of Danish Coleoptera. Entomologiske Meddelelser 59: 99-126.

HAYASHI, N. 1994. On the larvae of three species of Passandridae, Tenebrionidae and Melandryidae occurring in Japan (Coleoptera: Cucujoidea). Transactions of the Shikoskù Entomol. Soc. 20:137-144.

HEGAZI, E.M., SHAABAN, M.A. and SABRY, E. 1991. Carrion insects of the Egyptian western desert. J. Medical Entomol. 28:734-739.

HORNIG, U. 1993. The type specimens of Tenebrionidae in the Staatliches Museum fur Tierkunde Dresden: Part I. Tribus Platyscelini, Praocini, Pedinini, Opatrini, Phalerlini, Drypticini, Bolitophagini, Rhipidandrini, Diaperini, Gnathidini, Leiochrini et Phrenapatini (Insecta, Coleoptera). Entomologische Abhandlungen Dresden) 55:7-12:153-161.

IWAN, D. 1990. Platynotini (Coleoptera, Tenebrionidae, Opatrinae) of the Natural History Museum in Geneva. Revue Suisse de Zoologie. 1990. 97. 427-434.

JOHNSON, C., and PITCHER, D.A. 1989. Tenebrionids (Coleoptera) collected in the eastern province of Saudi Arabia. Fauna of Saudi Arabia. 1989. No. 10 123-133.

KASZAB, Z., MONTEITH, G., MONTEITH, G.B., MONTEITH S.R. and COOK, D. 1986. Tenebrionids (Coleoptera) from New Caledonia. Annales Historico Naturales Musei Nationalis Hungarici 1986, 78, 151-175.

KOMPANTSEVA, T.V. 1994. Mycetophilous tenebrionid fauna of Bolitophagini and Diaperini (Coleoptera, Tenebrionidae) from Middle Asia. Byulleten' Moskovskogo Obshchestva Ispytatelei Prirody Otde) Biologicheskii 99:44-47.

LABES, R.U.D. and ROESSNER, E. 1993. The insect fauna of owl pellets. Entomologische Nachrichten und Berichte 37:235-241.

LAGO, P.K. 1988. North Dakota Eleodes (Coleoptera: Tenebrionidae). Entomological News. 99:17-22.

LILLIG, M. 1994. The subgenus Eodirosis Kwieton of the genus Erodius Fabricius, with two new species and a key to species (Coleoptera: Tenebrionidae: Pimeliinae: Erodiini). Israel J. Entomol. 28:151-156.

LIPA, J.J., SOSNOWSKA, D. and DOMAGALA, T. 1985. Insects occurring in casein stores . Prace Naukowe Instytutu Ochrony Roslin 27:125-130.

MAJZLAN, O. 1992. Laena viennensis Sturm: First record for Slovakia (Coleoptera: Tenebrionidae). Koleopterologische Rundschau 62:177-178.

MAKHAN, D. 1992. On new Zophobas species from Suriname, with a checklist of the Suriname species (Coleoptera: Tenebrionidae). Brenesia 0(37):131-132.

MARCUZZI, G . 1984. A catalogue of tenebrionid beetles (Coleoptera: Heteromera) of the West Indies. Folia Entomologica Hungarica. 45:65-105.

MARCUZZI, G. 1988. Structure of genitalia and phylogenesis of Neotropical tenebrionids. Senckenbergiana Biologica. 69:345-367.

MARCUZZI, G. 1994. New species of tenebrionid beetles (Coleoptera, Heteromera) from South America. Tropical Zool. 7:109-120.

MASUMOTO, K. 1989. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini) Japanese J. Entomol. 57:96-121.

MASUMOTO, K. 1989. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini). Japanese J. Entomol. 57:295-217.

MASUMOTO, K. 1989. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini) (Part 5). Japanese J. Entomol. 57:436-564.

MASUMOTO, K. 1989. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini) (Part 6). Japanese J. Entomol. 57:742-767.

MASUMOTO, K. 1990. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini) Japanese J. Entomol. 58:475-505.

MASUMOTO, K. 1990. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini). Part 8. Japanese J. Entomol. 58: 243-274.

MASUMOTO, K. 1994. Plesiophthalmus and its allied genera (Coleoptera, Tenebrionidae, Amaryxmini). (Part 10). Japanese J. Entomol. 58:693-724.

MASUMOTO, K. 1993. Larger flattened species of camariine genera from Asia (Coleoptera, Tenebrionidae, Cnodalonini). Japanese J. Entomol. 61:217-234.

MASUMOTO, K. 1994. A study of the Asian species of the genus Cerobria (Coleoptera, Tenebrionidae, Diaperini) Part 1. Japanese J. Entomol. 62:763-774.

MATTHEWS, E.G. 1993. Classification, relationships and distribution of the genera of Heleini (Coleoptera: Tenebrionidae). Invert. Taxonomy 7:1025-1095.

MERKL, O. 1992. The second species of Oxinthas (Coleoptera, Tenebrionidae: Coniontini). Annales Historico-Naturales Musei Nationalis Hungarici 84:89-92.

MILANDER, B. 1991. On the Tenebrionidae (Coleoptera) of Estonia. Eesti Teaduste Akadeemia Toimetised Biloogia 40:62-76.

NEPESOVA, M.G. 1989. Contribution to the study of tenebrionid larvae (Coleoptera, Tenebrionidae) of Turkmenia. Izvestiya Akademii Nauk Turkmenscoi SSR. Seriya Biologicheskikh Nauk. 1989. No. 1, 23-25.

SABIROVA, O.R. 1988. Numbers and distribution of larvae of black beetles (Coleoptera: Tenebrionidae) in deserts of Turkmenia. Izvestiya Akademii Nauk Turkmenskoi SSR. Seriya Biologicheskikh Nauk. 1986, No. 6, 13-14.

SALEM, M.M.H. 1986. Survey and studies on dung fauna in Egypt. Revue de Zoologie Africaine 102:347-351.

SANTAMARIA, S., 1004. New or interesting species of Dimeromyces (Laboulbeniales, Ascomycotina). Nova Helwigia 58:177-189.

SCHAWALLER, W. 1995. Revision of the Laena species from middle Asia (Insecta, Coleoptera, Tenebrionidae). Spixiana 18:65-73.

SOLDATI, L. 1994. Revision of the North-African Blaps: The species of the Blaps alternans Brulle group Coleoptera: Tenebrionidae). Bulletin de la Societe Entomologique de France 99:117-125.

SOLDATI, F. AND SOLDATI L. 1993. Characteristics of the entomological population in the cliffs of Sete and discovery of a new species for French fauna: Gonocephalum velamosi Espanol and Vinolas, 1983 (Coleoptera Tenebrionidae Opatrinae). Entomologiste (Paris) 49:217-220.

SOYUNOV, O. 1988. Black beetles (Coleoptera, Tenebrionidae) of the Zaunguz Karakums. Izvestiya Akademii Nauk Turkmenskoi SSR. Seriya Biologicheskikh Nauk. 1988 No. 6, 15-19.

TRIHAS, A., and LEGAKIS, A. 1991. Phenology and pattern of activity of ground Coleoptera in an insular Mediterranean ecosystem (Cyclades, Greece). Pedobiologia 35:327-335.

TRIPLEHORN, C.A. 1990. Review of the genus Corticeus (Coleoptera: Tenebrionidae) of North America north of Mexico. Annals Entomol. Soc. Amer. 83:287-306.

TRIPLEHORN, C.A. 1994. A new species of Platydema Laporte and Brulle from Peru, with notes on similar species (Coleoptera: Tenebrionidae). Coleopterists Bulletin 48:245-251

TRIPLEHORN, C.A. 1994. Studies in neotropical Neomida: Descriptions of eight new species (Coleoptera: Tenebrionidae). Proc. Entomol. Soc. Washington 96:417-427.

TRIPLEHORN, C.A. and STEPHAN, C. 1994. Notes on Centronetus opacus LeConte (Coleoptera: Tenebrionidae). Coleopterists Bulletin 48:148.

WATT, J.C. 1992. Tenebrionidae (Insecta,: Coleoptera): catalogues of types and keys to taxa. Fauna of New Zealand, 1992, No. 25, 70pp. 4 pp of ref.

WISNIEWSKI, J. and HIRSCHMANN, W. 1993. Stages of three new Uroseius (Apionoseius) species (Acarina, Uropodina) on Trox species (Coleoptera, Tenebrionidae) from USA and Brazil. Bulletin Polish Acad., of Sciences Biol. Sci. 41:85-97.

16. TECHNIQUE

ARTHUR, F.H. 1994. Feasibility of using aeration to control insect pests of corn stored in Southeast Georgia: Simulated field test. J. econ. Entomol. 87: 1359-1365.

BLINOVA, S.L. and IVANOVA, E.S. 1990. Culturing the nematode-bacterial complex of Neoplectana carpocapsae in insects. Helminths of insects (edited by Sonin, M.D.) 1990. 13-21. Translation of Gel'minty Nasekomych. 2300 PA Leiden, Netherlands: E.J. Brill.

BREIDBACH, O. 1987. A rapid methylene blue staining procedure for the ventral nerve cord of holometabolous insects. Stain Technol. 62:369-372.

FABRE, B., VELDUKS, J., ETIENNE, G., LEGENDRE, F. and TRABR, G. 1993. CL307-24, a new antibiotic complex from Saccharopolyspora aurantiaca sp. nov. II. Physicochemical and biological properties. J. Antibiotics 46:1421-1427.

GARCIA-MAROTO, F., CARBONERO, P. and OLMEDO, F.G. 1991. Site directed mutagenesis and expression in Escherischia coli of WMAI-1, a wheat monomeric inhibitor of insect alpha-amylase. Plant Molecular Biol. 17:1047-1057.

HAAS, F. 1992. Serial sectioning of insects with hard exoskeleton by dissolution of the exocuticle. Biotechnic and Histochem. 67:50-54.

HAGSTRUM, D.W., DOWDY, A.K. and LIPPERT, G.E. 1994. Early detection of insects in stored wheat using sticky traps in bin headspace and prediction of infestation level. Environmental Entomol. 23:1241-1244.

HAGSTRUM, D.W. and FLINN, P.W. 1993. Comparison of Bostrichidae, acoustical detection of several species of stored-grain beetles (Coleoptera: Curculionidae, Tenebrionidae, Bostrichidae, Cucujidae) over a range of temperatures. J. Econ. Entomol. 86:1271-1276.

HOUSH-GOLDSTEIN, J.A., GEIGER, J., CHANG, D. and SAYLOR, W. 1993. Palatability and toxicity of the Colorado potato beetle (Coleoptera: Chrysomelidae) to domestic chickens. Annals Entomol. Soc. Amer. 86: 158-164.

JOHNSTON, S.L. and LEE, R.E., Jr. 1990. Regulation of supercooling and nucleation in a freeze intolerant beetle (Tenebrio molitor). Cryobiology 27:562-568.

KUBOTA, T. and SHIGA, M. 1995. Successive mass rearing of Chrysopids (Neuroptera: Chrysopidae) on eggs of Tribolium castaneum (Coleoptera: Tenebrionidae). Japanese J. Applied

Entomol. Zool. 39:51-58.

MA, M., SIEBER, K.P., BALLARINO, J. and WU, S.J.1986. ELISA and monoclonal antibodies. Immunological techniques in insect biology. 1988, 43-73. New York, NY 10010, USA; Springer-Verlag,New York inc.

MARCUZZI, G. 1987. The ratio weight/length in coleopterous insects. Elytron 1:17-23.

MORRILL, W.L., LESTER, D.G. and WRONA, A.E. 1990. Factors affecting efficacy of pitfall traps for beetles (Coleoptera: Carabidae and Tenebrionidae). J. Entomol. Sci. 25:284-293.

NEVES, D.P., DE SOUZA, F.T.P., LAMAS DA SILVA, J.M. and CUNHA, H.C. 1987. Control of Musca domestica (Diptera: Muscidae) in faeces of egg-laying chickens by using larvae of Alphitobius piceus (Coleoptera: Tenebrionidae). Arquivo brazileiro de Medicina Veterinaria e Zootecnia. 1987. 39:547-551.

NICOLSON, S., ISAACSON, L. and GERNEKE, D. 1991. A new method of preparing the basal membrane of renal tubules for patch clamp, using beetle Malpighian tubules. Pflugers Archiv. 417:654-656.

POLLOCK, D.A. 1968. A technique for rearing subcortical Coleoptera larvae. Coleopterists Bull. 42:311-312.

SARAL, E., APPLEBAUM, S.W. and BIRK, Y. 1992. Detection and determination of Locusta migratoria trypsin by radioimmunoassay. Archives Insect Biochem. Physiol. 20:157-164.

STRONG-GUNDERSON, J.M., LEE, R.E. Jr. and LEE, M.R. 1992. Topical application of ice-nucleating-active bacteria decreases insect cold tolerance Applied and Environmental Microbiology 58:2711-2716.

UNGLAUB, W. and Neumann, F. 1994. Contamination of pollen with fenoxycarb (e.g. in "Insegar") - bioassay for assessing its effect. Deutsches Bienen Journal 2:19-20.

THEISS, S. and HEIMBACH, U. 1994. Laboratory method for rearing the ground beetle species Bembidion tetracolum (Coleoptera: Carabidae). Entomologia Generalis 19:61-64.

WIEDENMANN, R.N. and O'NEIL, R.J. 1990. Effects of low rates of predation on selected life-history characteristics of Podisus maculiventris (Say) (Heteroptera: Pentatomidae). Canad. Entomol. 122:271-283.

ZANUNCIO, J.C., ALVES, J.B.C., SARTORIO, R.C. and LEITE, J.E.M. 1992. Methods for mass production of moth predators

(Hemiptera). Anais da Sociedad Entomologica do Brasil 21:245-249.

ZANUNCIO, J.C., ALVEZ, J.B.C., SARTORIO, R.C. and LEITE, J.E.M. 1992. Methods for rearing larval predators from the Hemiptera. Anais da Sociedad Entomologica do Brasil 21:245-251.

19. TERATOLOGY

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A. SOKOLOFF

PERSONAL DIRECTORY - TENEBRIO

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(TENEBRIO SPECIALISTS CITED AS SENIOR OR SOLE AUTHOR)

Abboud, YM School of Biological Sciences, Bath Univ. Claverton Down, Bath BA2 7AY, UK.

Abdel-Salam, KA. Atomic Energy Authority, Nuclear Research Center, Radiobiology Department, Abo-Zaabal 13759, Egypt.

Abdulahi, A. Ministry of Agriculture, PO Box 62347, Addis Ababa, Ethiopia.

Abivardi, C. Department of Entomology, Swiss Federal Institute of Technology, CH-8092 Zurich, Switzerland.

Afifi, AI. Biological control Laboratory, Department of Entomology and Pesticides, Faculty of Agriculture, Cairo University, Cairo, Egypt.

Afzelius, B.A. Dep. Ultrastructure Res., Biol. Bldg. E4, Stockholm University, S-106 91 Stockholm, Sweden.

Ahmad, M. Grain Storage Research Laboratory, PMRI, PARC, Karachi, Pakistan.

Ahmad, MS. Pakistan Agricultural Research Council, Islamabad, Pakistan.

Ahmed, M. Grain Storage Research Laboratory, Pest Management Research Institute, Pakistan Agricultural Research Council, Karachi University Campus, Karachi 75270, Pakistan.

Ahmed, MYY. Intitut fur Angewandte Zoologie, Universitet Bonn, D-5300 Bonn, German Federal Republic.

Albert, P.J. Dep. Biol. Concordia University, 1455 De Maisonneuve Blvd. W., Montreal, PQ H3G 1M8, Canada.

Aldryhim, YN. Plant Protection Department, College of Agriculture, King Saud University, Riyadh 11451, Saudi Arabia.

Ali, A. Entomology Section, Ayub Agricultural Institute, Faisalabad, Pakistan.

Ali, SH. BCSIR Laboratories, Rajshahi University, Dhaka, Bangladesh.

Allotey, J. Department of Biological Sciences, Rivers State University of Science and Technology PMB 5080, Port Harcourt, Nigeria.

Alonso-Amelot, ME. Grupo de Quimica Ecologica, Departamento de Quimica, Facultad de Ciencias, Universidad de los Andes, Medida 5101, Venezuela.

Alrubeai, HF. Plant Protection Dep., Nuclear Res. Center, PO Box 765 Baghdad, Iraq.

Altabella, T. University of California, San Diego, La Jolla, CA.

Andersen, S.O. August Krogh Inst., Copenhagen Univ. 13 Universitetsparken, DK-2100 Copenhagen O, Denmark.

Andreev, D. Department of Entomol. University of Wisconsin-Madison, Madison, Wisconsin 53706.

Andries, JC. Universite des Sciences et Techniques de Lille, Service de Biologie Animale et Laboratoire Associe au CNRS No. 148 'Endocrinologie des Invertebres' 59655 Villeneuve-d'Ascq, France.

Anioke, SC, National Root Crops Research Institute, Umudike P.M.B. 7008, Umuahia, Nigeria.

Arbogast, RT. Stored Product Insects Research and Development Laboratory, USDA, ARS, PO Box 22909 Savannah, GA 31403.

Arme, C. Parasitol. Res. Lab., Cent. Appl.. Entomol. Parasitol., Dep. Biol. Sci., Keele Univ., Keele, Staffs. ST5 5BG, UK.

Armstrong, E. Department of Entomology, University of Maryland, College Park, MD.

Arthur, FH. Stored Prod. Res. & Dev. Lab. USDA, ARS, Savannah. GA31405

Attygalle, A.B. Cornell University, Ithaca, NY.

Audas. A. Coll. Sci. Technol., St Cloud State Univ., 720 4th Avenue South, St. Cloud, MN 56301-4498.

Awknavar, JS. Department of Agricultural Entomology, University of Agricultural Sciences, Dharwad 580 005, India.

Bakanova, All Union Res. Inst. Prophylaxis Toxicol. Disinfect., Moscow, Russia.

Baker, JE. Stored Product Insects Research & Development Laboratory, USDA, ARS, P.O. Box 22909, Savannah, GA 31403.

Bandeira, AG. Biologo, INPA, Caixa Postal 478 69011, Manaus, AM, Brasil.

Barak, AV. Methods Development Center, Hoboken, NJ 0730.

Barker, P.S. Agriculture Canada Research Station, 195 Dafoe Rd., Man. R3T 2M9.

Barrett, FM Department of Zoology, Toronto University, Ontario, M5S 1A1, Canada.

Basak, PK. A.B.N. Seal College, Cooch-Behar, West Bengal, India. (Also listed as Department of Zoology, Jhargram Raj College, Jhargram-721 507, India).

Bass, LK. Department of Entomol., Univ. of Maryland, College Park, MD 20742.

Baur, A. Inst. Mikrobiol., Schittsphanstrasse 10, 6100 Darmstadt, Germany.

Becker, R. USDA-ARS, 800 Buchanan Street, Albany, CA 94710.

Beeman, RW. U.S. Marketing Research Laboratory, USDA, ARS, 1515 College Avenue, Manhattan, KS 66502.

Bekon, AK. Laboratoire de Zoologie Agricole,, ENSA 08 BP 35 Abidjan, 08 Ivory Coast, Africa.

Belfikore, C.J. Dep. Mol. Biol. Univ. Wyoming, P.O. Box 3944, Laramie, WY 82071.

Belousova, T.A. USSR Academy of Sciences, Moscow Region, Russia.

Ben-Shlomo, R. Department of Genetics, Hebrew University of Jerusalem, Israel.

Bennett, RL. Center for Gravitational Studies in Cellular and Developmental Biol., Div. of Biol. Kansas State Univ., Manhattan, Kansas, 66506-4901.

Bernstein, DI, Cincinnati University Medical Center, Cincinnati, Ohio 45267.

Bhattacharyya, PR. Division of Medicinal and Economic Plants, Regional Research Laboratory
Johat 785 006, India.

Black, PN. Department of Zoology, University of Vermont, Burlington, VT 05405.

Boase, CJ. Chesterford Park Research Station, Saffron Walden, Essex, CB10 1XL, UK.

Boon, KS. Department of Zoology, National University of Singapore, Lower Kent Ridge Road, Singapore, 0511 Singapore.

Bouhin, H. Universite de Bourgogne, Dijon, France.

Bounias, M. Univ. D'Avignon, Biomathematique et Toxicol., 23 Rue du 58e R. I., F 84000 Avignon, France.

Boylan, WJ, University of Minnesota, St. Paul, MN 55108.

Breidbach, O. Inst. Angewandte Zoologie, An Immenburg 1, D-53121 Bonn, Germany.

Briers, T. Leuven, Catholic University, Zoological Institute, B-3000 Leuven, Belgium.

Brindle, P.A. American Cyanamid, Princeton, NJ.

Brower, JH. Stored Prod. Insect Research and Dev't Lab. P.O. Box 22909, Savannah, GA 31403.

Buchi, R. Eidgenossische Forschungsanstalt fur Landwirtschaftlichen Pflanzenbau, Reckenholz (FAP) CH_8046 Zurich, Switzerland.

Buscarlet, LA. Commissariat a L'Energie Atomique, Department de Physiologie Vegetale et Ecosystemes, Section d'Ionization des Vegetaux, 13108 Saint Paul Lez Lurance, France.

Calderon, M. Department of Stored Products, Agricultural Research Organization, Bet Dagan, Israel.

Campo, JL. Departamento de Produccion Animal, Area de Mejora Genetica, Instituto Nacional de Investigaciones Agrarias, Madrid, Spain.

Cano, R. J. Biol. Sci. Dep., Calif. Polytechnic State Univ., San Luis Obispo, CA 93407.

Castro, L. Instituto de Investigaciones Agrarias, Departamento de Produccion Animal, Apartado 8111, 28080, Madrid, Spain.

Chakanyuka, KM. Department of Crop Sci. Univ of Zimbabwe, PO Box MP167 Mount Pleasant, Harare, Zimbabwe.

Chander, H. Central Food Technol. Res. Inst. Regional Centre, Ludhiana 141 006, India

Chang, Z. H. State University of New York, Binghamton, N.Y.

Chen, M.S., Kansas State University, Manhattan, Kansas.

Chen, WM. Department of Chem and Biochem. Univ. of Texas, Austin, TX 78712.

Chon, WK. Depaartment of Agricultural Biology, College of Agriculture, Korea University, Seoul, 136 701, Korea Republic.

Choromanski, L. Instytut Parazyt. PAN. Pasteura 3, 00-973 Warsaw, Poland.

Choudhury, D. Division of Agricultural Chemicals. Indian Agricultural Research Institute, New Delhi, 110012, India.

Chujo, M. Hikosan Biological Laboratory, Faculty of Agriculture, Kyushu University,, Hikosan, Fukuoka 824 07, Japan.

Churchill, D. Dept. Zool., Univ. Western Ontario, London, Ont., Canada N6A 5B7.

Cidaria, D. Instituto G. Donegani, Novara, Italy.

Claborn, DM. Box 43, Disease Vector Ecology and Control Center, NAS Jacksonville, FL 32212.

Clopton, R.E., School Biol. Sci., Univ. Nebraska-Lincoln, Lincoln, NE 68588-011.

Cogburn, RR. Rice Research Unit, ARS-USDA, Beaumont, TX 77713.

Collins, PJ. Division of Plant Protection, Queensland Department of Primary Industries, 80 Meirs Road, Indooroopilly, Qld. 4068, Australia.

Conn, DB, Dep. Biol. Univ. of Cincinnati, Cincinnati, OH 45221

Connat, JL. Laboratoire de Zoologie, Faculte des Sciences 21100, Dijon, France. (also Universite de Geneve, Geneve, Switzerland).

Conner, J. Department of Entomology, Cornell University, Ithaca, NY 14853.

Constantinou, C. Dept Zool., Birkbeck College, Univ. London, WC1E 7HX, UK.

Corral, FJW. Departamento de Investigacion y Posgrado en Alimentos de la Universidad de Sonora, Apdo. Postal 1658, Hermosillo, Sonora, Mexico.

Cravedi, P. Instituto di Entomologia, Facolta di Agraria, Universita degli Studi, Piacenza, Italy.

Cuperus, GW. Department of Entomology, Oklahoma State University, Stillwater, OK 74078.

Daglish, GJ. Division of Plant Protection, Queensland Department of Primary Industries, Meiers Road, Indooroopilly 4068, Australia.

Dailey, PJ. Department of Zoology, Vermont University, Burlington, VT 05405.

Daniewski, WM. Institute of Organic Chem. Polish Acad. Sci, Kasprzaka 44, 01224 WArsaw, Poland

Delachambre, J. Dep. de Biologie Animale, Univ. de Annaba BP 12, 23000 Annaba, Algerie, France

Delbecque, J.P. Dep. de Biologie Animale, Univ. de Annaba, BP 12, 23000 Annaba, Algerie, France.

Delobel, A. Museum National d'Histoire Naturelle, Antenne ORSTOM, Entomologie, 45 rue de Buffon, 75005, Paris, France.

Denell, RE. US Grain Marketing Research Laboratory, Agricultural Research Service, US Department of Agriculture, Manhattan, KS 66502.

Desharnais, RA Department of Biology, California State University, Los Angeles, CA 90032-8201.

Desmarchelier, J. CSIRO, Div of Entomol. GPO Box 1700, Canberra, ACT 2601, Australia.

Dhanasekaran, S. Fredrick Institute of Plant Protection and Toxicology, Padappai, Tamil Nadu, India.

Dibs, S. Birzeit University, Faculty of Science, Department of Biology and Biochemistry, Birzeit, West Bank, Jerusalem, Israel.

Dietz, B. H. Museu de Zoologia, Universidade de Sao Paulo, Av. Nazare 481, 04263-000.

Dolci, M. Istituto di Chimica Facolta di Agraria. 10126 Turin, Italy.

Donahaye, E. Agricultural Research Organization, Bet Dagan, Israel.

Duguet, JS. ROUSSEL UCLAF, HPE, 163 Avenue Gambetta, 75020 Paris, France.

Dunkel, FV. Department of Entomology, Montana State Univ., Bozeman MT 59717.

Easton, C.M. Dep. Biol. Sci., Binghamton Univ. Binghamton, NY 13902-6000.

Edwards, JP. ADAS Central Science Laboratory, Ministry of Agriculture, Fisheries and Food, London Road, Slough, Berks. SL3 7HJ, UK.

Egaas, E. Norwegian Plant Protection Institute, Aas, Norway.

Elek, JA. CSIRO, Division of Entomology, GPO Box 1700, Canberra, ACT 2601, Australia.

Elegami, AAB. Department of Biochemistry, Faculty of Agriculture, University of Khartoum, Sudan

El Mofty MM. Zoology Department, Faculty of Sci. University of Alexandria, Egypt.

El-Sayed, FMA. Plant Protection Institute, Agricultural Research Centre, Dokki, Egypt.

Enriz, R.D. Area de Quimica Generale Inorganica, Universidad Nacional de San Luis, Chacabuco Pedernera, 5700 San Luis, Argentina.

Espadaler, X. Dep. Anim. Biol. Ecol., Autonomous Univ. Barcelona, 08193 Bellaterra, Spain.

Estal, P. del. Catedra de Entomologia Agricola, E.T.S.I. Agronomos, 28040 Madrid, Spain.

Evans, DL. Dept. Biology, American Univ. Beirut, Beirut, Lebanon.

Evans, WS. Department of Biology, University of Winnipeg, Winnipeg, Manitoba, R3B 2E9, Canada.

Fargo, WS. Department of Entomology, Oklahoma State University, Stillwater, OK 74078.

Farkas, R. Slovenska Entomologicka Spolocnost' pri SAV, Bratislava, Czechoslovakia.

Ferreira, C. Universidade de Sao Paulo, Sao Paulo, Brasil.

Fisher, J. Trece, Inc., Salinas, CA

Fisher, S.W. Ohio State University, Columbus, Ohio.

Francois, J. Laboratoire de Zoologie, Faculte des Sciences, Universite de Dijon, F-21100 Dijon, France.

French, R.A. Coll. Vet. Medicine., Univ. Ill., 2001 S. Lincoln Ave., Urbana, IL 61801.

French, V. Institute of Cell, Animal and Population Biology, University of Edinburgh, Edinburgh EH9 3JT, UK.

Friars, GW. Salmon Genetics Research Program, Atlantic Salmon Federation, Box 429 St. Andrews, NB E0G 2X0, Canada

Fukami, JI. Lab Insect Toxicology, Inst. Phys. & Chem. Res. Wako, Saitama 351, Japan. (Also: Meiji College of Pharmacy, Tokyo, Japan).

Furuya, K. Dept. Biochemistry, Univ. Nevada, Reno, NV 89557.

Gade, G. Zoology Dept., University of Cape Town, Rondebosch 7700, S. Africa. (also Institut fur Zoophysiologie, Universitat Bonn, AVZI, D-5300 Bonn 1, Germany.

Gage, M.J.G. University of Manchester, Manchester, UK.

Gandhi, RS. Dairy Cattle Breeding Division, National Dairy Research Institute, Karnal-132 001 India.

Garcia, C. Area de Genetica, Departamento de Biologia Fundamental, Facultad de Biologia, Santiago de Compostela, Galicia, Spain

Garcia Casado, G. Dep. Bioquimica, E.T.S. Ingenieros Agronomos, Ciudad Univ., 28040 Madrid, Spain.

Garcia Maroto, F. Max-Planck Institut fur Zuchtungsforschung, Koln, Germany.

Gerber, GH. Research Station, Agriculture Canada, Winnipeg, Manitoba R3T 2M9, Canada

Gibbs, A. University of California, Davis, CA.

Giga, DP. Faculty of Agriculture, University of Zimbabwe, PO Box MP 167, Harare, Zimbabwe.

Goldring, J.P.D. Dep. Biochem., Univ. Witwatersrand, P.O. 2050 Wits, Johannesburg, S. Africa.

Gomez, L. E.T.S. Ingenieros Agronomos, Madrid, Spain.

Goodnight, C.J. 1991. Department of Zoology, University of Vermont, Marsh Life Building, Burlington, VT 05405-0086.

Gorgen, G. Institut fur Organische Chemie, Richard Willstatter- Allee D-7500 Karlsruhe, Germany.

Gregory, D.A. Agric. Canada Res. Station, Lethbridge, AB T1J 4B1, Canada.

Griffin, C.T. Dep. Biol., St. Patrick's Coll., Maynooth Co. Kildare, Ireland.

Grimnes, K.A. Dept. Biol., Alma College, Alma, MI 48801.

Gronchi, C. Associazione Panificatori, Panificatori Pasticcieri ed Affini di Milano e Provincia, Milan, Italy.

Grosser, D. Institut fur Holzforschung, Universitat Munchen, D-8000 Munich 40, Germany.

Grover, P. Biology Division, Indian Institute of Chemical Technology, Hyderabad-500 007, Andhra Pradesh, India.

Gupta, RBL Plant Pathology Lab., Agricultural Station, Durgapura, Jaipur 302 015, India.

Gupta, M. Division of Entomology, Indian Agricultural Research Institute, New Delhi 110012, India.

Gupta, S. Division of Parasitology, Central Drug Research Institute, Lucknow 226001, India.

Haas, F. Department of Systematic Zoology, Tubingen, Germany.

Haderspeck, W. Universitet Ulm, Ulm/Donau, Germany.

Haebel, S. Dep. Mol. Biol., Odense Univ., Campusvey 55, DK-5230 Odense M, Denmark.

Hagstrum, DW. US Grain Marketing Research Laboratory, USDA-ARS, Manhattan KS 66502

Halarnkar, P.P. Dep. Biochem., Univ. Nevada, Reno NV 89557, USA. (Possible alternate address: Miles, Inc., Stilwell, KS).

Hankin, L. Connecticut Agricultural Experiment Station, Box 1106, New Haven, CT 06504.

Hansen, T. N. State University of New York, Binghamton, NY

Happ, CM. Dept. Zoology, Vermont University, Burlington, VT 05405.

Haque, MM. Department of Zoology, University of Rajshahi, Rajshahi 6205, Bangladesh.

Harein, PK. Department of Entomology, University of Minnesota, St. Paul, MN 55108.

Harish-Chander. Central Food Technical Research Institute Regional Centre, Ludhiana 141006, India.

Harnish , DG. DEpt. Pathology, McMaster Univ., Hamilton, Ont., Canada.

Hasan, M. Department of Zoology, Rajshahi University, Bangladesh.

Hastings, A. Division of Environmental Studies, Institute of Theoretical Dynamics and Center for Population Biology, University of California, Davis, CA 95616.

Hatt, P.J. Laboratoire de Biochimie, URA CNRS, Paris, France.

Haubold, G. Institut fur Mikrobiologie und experimentelle Therapie, Jena,-Thuringen, Friedrich Schiller Universitat, Jena, Germany.

Havukkala, IJ. Department of Pure and Applied Biology, Imperial College of Science and Technology, London, UK.

Hebanowska, E. Institute of Chemistry, University of Gdansk, Sobieskiego 18, 80-952, Gdansk, Poland.

Henckes, C. Deutsche Gesellschaft fur Technische Zusammenarbeit, Project fur Nachertefragen (GTZ), Hamburg, Germany.

Herron, GA. N.S.W. Agriculture & Fisheries, Biological & Chemical Research Institute, PMB 10, Rydalmere, NSW 2116, Australia.

Hines, ME. Department of Food Science Smith Hall, Purdue University, West Lafayette, IN 47907.

Hirashima, A. Department of Agricultural Chemistry, Kyushu Univ. Fukuoka 812, Japan.

Ho, SH. Department of Zoology. National University of Singapore, Lower Kent Ridge Road, Singapore 0511.

Hodges, RJ. Natural Resources Institute, Central Avenue, Chatham Maritime, Chatham, Kent ME4 4TB, UK.

Hogan, G.R. St. Cloud State University, ST. Cloud, MN.

Hopkins, J.D. Dep. Entomology, Arkansas Agricultural Experiment Station, Univ. Arkansas, Fayetteville, AK 72701.

Hopkins, TL. Department of Entomology, Kansas State University, Manhattan KS 66506-4004.

Howard, R.W. U.S. Grain Marketing Research Laboratory, USDA, ARS, Manhattan, KS.

Hung, CC. Taiwan Agricultural, Chemical and Toxic Substances Institute, Taiwan.

Huq, MS. Institute of Food Science and Technology, BSCIR, Dhanmandi, Dhaka, Bangladesh.

Hurd, H. Cent. Applied Entomol. Parasitol., Dep. Biol. Sci., Keele Univ., Keele, Staffordshire ST5 5BG, UK. (Also given as Parasit Res. Lab., Dep. Biol. Sci. Univ. of Keele, Keele, Staffs., ST5 5BG UK).

Hurst, LD, Department of Genetics, University of Cambridge, Cambridge, CB2 3JE, UK

Husain M. Zoology Section, BCSIR Laboratories, Rajshahi, Bangladesh.

Imura, O. Stored Product Entomology Laboratory, National Food Research Institute, Kannondai, Tsukuba, Ibaraki 305, Japan.

Ip, Y.K., National University of Singapore, Kent Ridge, Singapore.

Irshad, M. National Agricultural Research Centre, Islamabad, Pakistan.

Ishaaya, I. Department of Entomology, ARO, The Volcani Center, Bet Dagan, 50250, Israel.

Jahan, S. Department of Zool., Rajshahi University, Rajshahi 6205, Bangladesh.

James, D.G. Yanco Agric. Inst., N.S.W. Agri., Yanco, NSW 2703, Australia.

Javer, A. Simon Fraser University, Burnaby, BC V5A 1S6, Canada.

Jefferies, PR. Pesticide Chemistry and Toxicology Laboratory, Department of Entomological Sciences, University of California, Berkeley CA 94720.

Johnson, LB. Dep. Biology, Colgate Univ., Hamilton, NY 13346.

Johnston, S.L. Miami University, Hamilton, Ohio.

Juan, C. Laboratori de Genetica, Departament de Biologia Ambiental, Universitat de les Illes Balears, Palma de Mallorca 07071, Spain.

Kaczmarek, S. Katedra Biologii Wyszej Szkoly Pedagogicznej, ul. Arciszewskiego 22b 76-200 Slupsk, Poland.

Kalemba, D. Instytut Podstaw Chemii Zywnosci, Politechnika Lodzka, Lodz, Poland.

Kalra, VK. Department of Entomology, Haryana Agricultural University, Hisar 125 004, India.

Kamble, MY. College of Agriculture
Pune 411 005, India.

Kansouh, ASH. Department of Plant Protection, College of Agriculture, King Saud University, Riyadh, Saudi Arabia.

Kearns,, J.Y. Centre Applied Entomol. Parasitol., Dept. Biol. Sci., Keele Univ., Keele, Staffordshire ST5 5BG, UK.

Kelly, MP. Central Science Lab. MAFF, London RD. Slough, Berks SL3 7HJ UK.

Khalequzzaman, M. Department of
Zoology, University of Rajshahi, 6205, Bangladesh.

Khan, AR. Department of Zoology, Rajshahi University, Rajshahi, Bangladesh.

Khanam, LAM BCSIR Laboratories, Rajshahi, Bangladesh.

Kinzel, B. USDA, ARS, Washington, DC 20250-2350.

Kishore, P. Division of Entomology, Indian Agric. Res. Inst., New Delhi 110 012, India .

Klocke, JA AgrDyne Technologies Incorporated., 417 Wakara Way, Salt Lake City, UT 84108.

Korona, R. Institute of Environmental Biology, Jagiellonian Univ. Karasia 6, 30 060 Krakow, Poland

Kotaki, t., Natl. Inst. Seric. Entomol. Sci., Tsukuba, Ibaraki 305, Japan.

Kramer, K.J. Department of Biochemistry, Kansas State University, Manhattan, KS 66506.

Kramer, S.J. Sandoz Crop Protection, Palo Alto, CA.

Krieg, A. Biologische Bundesanstalt fur Land- und Forstwirtschaft, Institut fur Biologische Schadlingsbekampfung, D-6100 Darmstadt, Germany.

Krishnamurthy, TS. Infestation Control and Protectants Area, Central Food Technological Research Institute, Mysore-570 013, India.

Kroeker, E.M. Fraser Valley College, Abbotsford, British Columbia, Canada.

Krogh, T.N. Dep. Mol. Biol. Odense Univ., DK-5230, Odense M, Denmark.

Kulkarni, SG. Central Food Technological Research Institute Regional Centre, Gill Road, Ludhiana 141 006, India.

Kumari, TN. College of Agriculture, Vellayani 695 522, Thiruvananthapuram, India.

Kuusik, A. Inst. Plat Prot., Est. Agric. Univ., EE2400 Tartu, Estonia.

Laverdure, A.M. Lab de Biochem. et Physiol. du Dev., C.N.R.S. URA 686 IFREMER URM 4, Ecole Normale Superieure, 46 Rue D'Ulm, 75230 Paris Cedex 05 France.

Lavigne, RJ. PO Box 3354, University of Wyoming, Laramie, WY 82071-3354.

Lawson, SA. Department of Entomol. Waite Agricultural Research Inst. Glen Osmond, SA, Australia.

le Patourel, G. Department of Biology, Imperial College of Science, Technology and Medicine, Silwood Park, Ascot, Berkshire, SL5 7PY, UK.

Lee, RE Jr. Department of Zoology, Miami University, Oxford OH 45056.

Lemoine, A. Universite Bourgogne, URA CNRS 674 Development Communication Chimique, 6 Boulevard Gabriel, F-21000 Dijon, France. (Also given as Unite Associee au CNRS no 674 "Cytologie et Physiologie des Arthropodes', Lab. Zool., Univ. Dijon, 21000 Dijon, France).

Lenoir-Rousseaux, J.J. Lab Zoologie, UA CNRS 674, Univ. Bourgogne, Bd GAbriel, 21000 Dijon, France.

Lessard, FF. INRA, Laboratoire des Insectes des Denrees, BP 131, F-33140 Pont de la Maye, France.

Li, MD. Department of Genetics and Cell Biology, University of Minnesota, St. Paul, MN 55108.

Lin, H. Department of Entomology, University of Massachusetts, Amherst, MA 01003.

Lipa, JJ. Institute of Plant Protection, Miczurina 20, 60-318 Poznan, Poland.

Liu, JK. Department of Chemistry, Zhongshan University, Guangzhou 510275, China.

Lohar, M.K. Dep. Entomol., Sindh Agric. Univ., Tandojam, Pakistan.

Loschiavo, SR. Agriculture Canada Research Station, 195 Dafoe Road, Winnipeg, Man. R3T 2M9, Canada

Luco, J.M. Lab. Alimentos, Fac. Quim. Bioquim. y Farmacia, Univ. Nacional San Luis, Chacabuco y Pedernera, 5700 San Luis, Argentina.

Lutterschmidt, W.I. Dep. Zool., University of Oklahoma, Norman, OK 73019.

Machin, J. University of Toronto, Toronto, Ont., Canada.

Maheswaran, P. Department of Zoology, University of Jaffna, Jaffna, Sri Lanka.

Marco, M.P. CID (CSIC), Barcelona, Spain.

Marcuzzi, G. Universita di Padova, Istituto di Biologia Animale, 35131 Padova, Italy.

Massardo, P. Istituto G. Donegani S.P.A. Centro Ricerche Novara, 28100 Novara, Italy.

Matsushita, K. Department of Medical Zoology, Saitama Medical School, 38 Morohongo Moroyama, Iruma-gun, Saitama 350-04, Japan.

Matthews, WA., MAFF, Central Science Laboratory, London Rd., Slough, Berkshire, UK.

Mavrov, MV. Institut Organicheskoi Khimii im. N.D. Zelinskogo, AN SSSR, Moscow, USSR.

McFarlane, JA. NRI Grain Technology Department, Central Ave. Chatham Maritime, Chatham, Kent ME4 4TB, UK.

McLean, H. Dep. Zoology, Univ. Western Ontario, London, ON N6A 5B7, Canada.

Mehta, VK. Nuclear Research Lab., Indian Agricultural Res. Inst., New Delhi 110 012, India.

Mettrick, DF. Dep. Zool., Univ. Toronto, Toronto, Ont., Canada M5S 1A1.

Mietkiewski R. Agric. and Pedagogical Univ. Ul. Prusa 12, 08110 Siedlce, Poland.

Mironava, TP. Akademiya Agrarnykh Nauk Minsk, Belarus.

Mitioui, A. Lab de Physiologie des Insects, URA CNRS 1138, Universite Bordeaux I, Avenue des Fac. F33405 Talence-Cedex, France.

Miyake, T. Shiraoka Research Station of Biological Science, Nissan Chemical Ind. Ltd., Shiraoka-cho, Minami-Saitama-gun, Saitama 349-02, Japan.

Miyamoto, T. Mitsubishi-Kasei Inst., Life Sci., Machida, Tokyo 194, Japan.

Mbata, GN. Department of Zoology, University of Ibadan Ibadan, Nigeria.

Mkhize, JN. University of Transkei, Private Bag X1, Umtata, Transkei, South Africa.

Mohan, S. Department of Entomology, Tamil Nadu Agricultural University, Coimbatore 641 003, India.

Mondal, KAMSH Department of Zoology, Univ. of Rajshahi, Bangladesh.

Moon, H.J. Coll. Pharmacy, Pusan Natl. Univ., Jang Jeong, Dong, Kum Jeong Ku, Pusan 609 735, KOS.

Moore, S.J. Dep. Ecol. Evol. Biol., Monash Univ., Clayton, Victoria 3168, Australia

Moralejo, M. Dep. Bioquimica, ETS Ingenieros Agronomos-UPM, 28040 Madrid, Spain. (also: Centre R & D, IRTA-UPC, Lleida, Spain.

Moralejo, MA Centre R+D, Institut de Recerca i Tecnologia Agroalimentaries UPC, Lleida, Spain.

Morgan, TD. U.S. Grain Marketing Res. Lab. ARS, USDA, Manhattan KS 66504.

Mostafa, TS. Plant Protection REsearch Institute, Agricultural Research Center, Dokki, Egypt.

Mtioui, A. Lab Physiologie des Insectes, URA CNRS 1138 Neuroendocrinologie, Universite Bordeaux I, Ave. des Facultes, F33405 Talence-Cedex, France.

Mueller, DK. Fumigation Service and Supply Inc., Indianapolis, Indiana. (also listed as Mueller, D., Insects Limited, Inc., 10540 Jessup Blvd., Indianapolis IN 46280).

Murphy, PW. Univ. of Nottingham School of Agriculture, Sutton Bonington, Loughborough LE12 5RD, UK.

Murray, B.R. School Biol. Sci. Univ. Sydney, NSW 2006, Australia.

Mvumi, BM. Institute of Agricultural Engineering PB Box BW 330 Borrowdale, Harare, Zimbabwe.

Nagy, LM. Laboratory of Molecular Biology Howard Hughes Medical Institute, University of Wisconsin, Madison, WIS. 53706.

Nakakita, H., Stored Product Entomology Laboratory, National Food Research Institute, Tsukuba, Ibaraki, 305, Japan.

Nakamura, F. Department of Medical Biology, School of Medicine, Showa University, 1-5-8 Hatanodai, Shinagawa-ku, Tokyo 142, Japan.

Nathanson, JA. Department of Neurology, Harvard Medical School, Neuropharmacology Research Laboratory, Massachusetts General Hospital, Boston, MA 02114.

Nawrot, Institut for Plant Protection, Miczurina 20, 60318 Poznan, Poland.

Nemec, V. Inst. Entomol. Czech Acad. Sci., Branisovska 31, 370 05 Ceske Budejovice, Czechoslovakia.

Nicolson, S. University of Cape Town, Rondebosch, South Africa.

Nicotra, F. Istituto di Chimica Organica dell'Universita degli Studi, and Centro di Studio per le Sostanze Organiche Naturali del CNR, Milan, Italy.

Novak, M. Biology Department, University of Winnipeg, Man., R3B 2E9, Canada.

Nwana, IE. College of Agric. & Vet Medicine, Imo State University, PMB 2000, Okigew, Nigeria.

Obeng-Ofori, D. International Centre for Insect Physiology and Ecology PO Box 30772, Nairobi, Kenya.(also listed as: Department of Zoology, Austin Building, University of Cambridge, Downing Street, Cambridge CB2 3EJ, UK).

Odinokov, VN. Institute of Chemistry, Bashkir Scientific Center, Urals Branch, Academy of Sciences of the USSR, Ufa, Russia.

Oliveira, JV de. Estacao Experimental do Arroz do IRGA, AV. Bonifacio Carvalho Bernardes, 1494, 94900 Cachoeirinha, RS, Brasil.

O'Neil, R.J. Purdue University, West Lafayette, Indiana.

O'Neill, SL. Department of Entomology, University of Illinois, Urbana, IL 61801.

Onstad, DW. Section of Economic Entomology, Illinois Natural History Survey, 607 E. Peabody Drive, Champaign, IL 61820.

Orozco, F. Departamento de Produccion Animal, Instituto Nacional de Investigaciones Agrarias, Madrid, Spain.

Ouellette, Y. University of Western Ontario, London, Ontario, Canada.

Pacheco, IA. Instituto de Tecnologia de Alimentos. Sao Paulo, Brazil. (No address).

Pascual, N. Department of Biological Organic Chemistry, BArcelona, Spain.

Paesen, G.C. IVEM-NERC, Mansfield Rd., Oxford OX1 3SR, UK (Also University of Vermont, Burlington, VT).

Pagani M. Institute of Entomology and Plant Pathology and Institute of Food Science and Nutrition, Faculty of Agriculture, Piacenza, Italy.

Paleolog, J. Instytut Biologicznykh Podstaw Produkcji Zwierzecej Akademii Rolniczej w Lublinie , Akademicka 13, Lublin 20-934, Poland.

Parajukee, MN. Stored Product Insects Res. Lab. USDA ARS Department of Entomol. University of Wisconsin, Madison, WI 5370

Park, N. J. Screening Div., Korea Res. Inst. Chem. Technol. P.O. Box 107, Yusung, Taejeon 305-606 , South Korea.

Pascual, N. Department of Biological Organic Chemistry, Barcelona, Spain.

Pashley, D. P. Entomology Dept. La. State Univ. Baton Rouge, 70803, USA.

Paspalas, C. Lab Animal Physiol. Dep. Zool., Sch. Biol. Univ. Thessaloniki, GR-54006 Thessaloniki, Macedonia, Greece.

Paster, N. Department of Stored Products, ARO, The Volcani Center, PO Box 6 Bet Dagan, 50250, Israel

Patel, NH. Department of Embryology, Carnegie Institution of Washington, Baltimore, MD 21210.

Pedersen, LEK. Research Department, Cheminova A/S PO Box 9, 7620, Lemvig, Denmark.

Permual, D. Department of Biology, Imperial College at Silwood Park, Ascot, Berks, SL5 7PY, UK

Petitpierre, E. Laboratori de Genetica, Departament de Biologia Ambiental, Universitat de Les Illes Balears. Palma de Mallorca 07071, Spain.

Pezowicz, E. Katedra Zool. SGGW-AR, Warsaw, Poland.

Phillips, TW. USDA, ARS, Stored Product Insect Research Unit, Department of Entomology, University of Wisconsin, Madison WI 53706.

Picollo-de-Villar, M. Centro de Investigaciones de Plagas e Insecticidas (CIPEIN), CITEFA, CONICET, J. Zufriategui 4380, 1603 Villa Martelli, Argentina.

Pike, V. Natural Resources Institute (NRI) Chatham Maritime, Chatham, Kent, ME4 4TB, U.K.

Pillai, KS. Agricultural Entomology, Central Tuber Crops Res. Inst., Thiruvananthapuram 695017, India.

Pinniger, DB. ADAS Central Science Laboratory, London Road, Slough, Berkshire, SL3 7HJ, UK.

Plohl, M. Department of Organic Chemistry and Biochemistry, Ruder Boskovic Institute. Bijenicka 54, 41000 Zagreb, Croatia.

Ponti, O. de Instituut voor de Veredeling van Tuinbouwgewassen, PO Box 16, 6700 AA Wageningen, Netherlands

Pracros, P. Stn. Zoology, INRA, B.P. 81, F33883, Villenave D'Ornon Cedex, France.

Price, NR. ADAS Central Science Laboratory, London Rd. Slough, Berks. SL3 7HJ, UK.

Provansal-Baudez, A. Laboratoire de Zoologie, Universite de Dijon, 21100 Dijon, France.

Punzo, F. University of Tampa, Tampa, FL.

Quennedey, A. Lab. Zool. U.A. CNRS 674, Fac Sci., Univ Bourgogne, Bd. Gabriel, 21 000 Dijon, France.

Qureshi, SA. PCSIR Laboratories, Karachi, Pakistan.

Rajamma P. Central Tuber Crops Research Institute, Ssreekariyam, Trivandrum 695 017 Kerala, India.

Rajendran, S. Infestation Control and Protectants Department, Central Food Technological Research Inst. Mysore, 570 013 India.

Ramashrit, S. Rajendra Agricultural University, Pusa (Samastipur), Bihar 848 125, India.

Rameshwar-Singh. Agricultural Research Station, Navgaon (Alwar) Rajasthan, India.

Ramzan, M. Department of Entomology, Punjab Agricultural University, Ludhiana, India.

Rangaswamy, JR. Infestation Control & Protectants Discipline, Central Food Technological Institute, Mysore 570 013, India.

Reddy, G. U.S. Army Medical Bioengineering, R & D Laboratory, Fort Detrick, Maryland 21701.

Redkozubov, A.E. Inst. Physiol. Act. Substances, Russ. Acad, Sci. Chernogolovka, Russia

Reidy, GF. Liver Research Unit, Department of Medicine, Westmead Hospital, Westmead, NSW 2145 Australia.

Richards, K.S. Parasit. Res. Lab., Dep. of Biol. Sci., Univ. of Keele, Staffs. ST5 5BG, UK.

Risha, EM. Department of Economic Entomology, Faculty of Agriculture, University of Cairo, Giza, Egypt.

Rivers, D.B. Dep. Entomology, Ohio State Univ. 1735 Neil Ave. Columbus, OH 43210

Ro, A.I. Dep. Zool. UNiv. Lund, Helgonanagen 3, S-223 62 Lund, Sweden.

Rondot, I. URA CNRS 675, Fac. Sci. Gabriel, F-21000 Dijon, France.

Roper, University of Sussex, Brighton, UK.

Rostom, ZMF College of Education, King Faisal University, Al Ahsaa, Saudi Arabia.

Ruhnke, T.R. The University of Connecticut, Storrs, CT.

Ruppel, Department of Entomology, Michigan State Univ., East Lansing, MI 48824.

Ryan, MF. Department of Zoology, University Dublin, Belfield, Dublin 4, Irish Republic.

Ryan, RO. Department of Biochem., Arizona University, Tucson, AZ 85721.

Sakal, E. Department of Biochem. and Human Nutrition and Entomolgy, Faculty of Agriculture, Hebrew Univ. of Jerusalem, Rehovot, Israel.

Salama, HS. Pests and Plant Protection Department, National Research Centre, Dokki, Cairo, Egypt.

Salem, MM. Department of Plant Protection, College of Agriculture, P.O. Box 2460, Riyadh 11451, Saudi Arabia.

Saleem, MA. Department of Zoology, University of Punjab, Quaid-i-Azam Campus, Lahore, Pakistan.

Sanchez-Monge, R. Centre R+D Institut de Recerca i Tecnologia Agroalimentaries UPC, Lleida, Spain

Sanyal, A. Division of Agricultural Chemicals, Indian Agricultural Research Institute, New Delhi, 110 012 India.

Sartori, MR. Instituto de Tecnologia de Alimentos, Sao Paulo, Brazil. (No address.)

Saxena, BP. Division of Insect Physiology, Regional Research Laboratory, Jammu Tawi, 180 001, India.

Saxena, VS. Division of Entomology, Indian Agricultural Research Institute, New Delhi, 110 012, India.

Sayaboc, PD. National Postharvest Institute for Research and Extension, Munoz, Ecija, Philippines.

Schiffers, BC. Unite de Chimie Analytique & Phytopharmacie, Faculte des Sciences Agronomiques de Gembloux, 5030 Gembloux, Belgium.

Schmidt, GH. Lehrgebiet fur Zoologie-Entomologie, Fachbereich Biologie, Universitat Hannover, 3000 Hannover 21, Germany

Schroeckenstein, J.L. University of Wisconsin, Madison, WI.

Schuette, J.L. Michigan State University, Hickory Corners, MI.

Schutt, S. Institutionen for Miljovard, Helsinki University, SF 00710, Helsinki 71, Finland.

Seaton, KA. Horticulture Industries, Plant Industries Division, Department of Agriculture Western Australia, Baron-Hay Court, South Perth, WA6151, Australia

Seck, D. Laboratoire d'Entomologie des Denrees Stockees, Institut Senegalais de Recherches Agricoles, BP 17 Nioro du Rip, Senega Faculty of Agriculture, University of Khartoum, Shambat, Sudan.

Seifelnasr, YE. Department of Crop Protection, Faculty of Agriculture, University of Khartoum, Shambat, Sudan.

Segura-Correa, R. Lab. Fitoquimica, Dep. Farmacia, Fac. Quimica, Univ. Nac. Auton. de Mexico, Apartado Postal 70-265, Mexico D.F. 04511, Mexico.

Sengupta, T. Protozoology Laboratory, Department of Zoology, University of Kalyani, Kalyani, 741 235 West Bengal, India.

Serrano, JM, Departamento de Produccion Animal, Instituto Nacional de Investigaciones Agrarias, Apartado 8111, 28080 Madrid, Spain.

Sevala, V.M. Dep. Biol. York Univ. 4700 Keele ST., North York, ON M3J 1P3 Canada.

Shaaya, E. Department of Stored Products, ARO, Bet Dagan 50250, Israel.

Sharma, DK. Division of Agricultural Chemicals, Indian Agricultural Research Institute, New Delhi 110 012, India.

Sharma, RN. Division of Entomol. National Chemical Lab., Pune 411 008, India.

Shrivastava, AP. Defence Materials & Stores Research & Development Establishment, Kanpur-208 013, India.

Shukla, RM. Directorate of Plant Protection, Quarantine and Storage, N. H. IV, Faridabad 121 001, India

Sia, MA. Isabella State University, Philippines.

Singh, A. Parasite Multiplication Unit, 50/20 Ganganagar, Bangalore, 560 032 India.

Singh, R. Dept of Entomol. Haryana Agricultural University, Hisar 125 004. India.

Singh, V. Directorate of Oilseeds Research, Rajendranagar, Hyderabad 500 030 India.

Sinha, KK, University Department of Botany, Bhagalpur University, Bhagalpur 812007, India.

Siracusa, A. Inst. Occupational Med., Via E Dal Pozzo, 06100 Perugia, Italy.

Sivapragasam, A. Cocoa/Coconut Division, MARDI. PO Box 25, 36307 Sungai Sumun, Perak, Malysia.

Slama, K.Lab. Ecol. Pharmacol. Intereco, Kladenska 11, 160 00 Praha 6, Czech Republic.

Smith, LB. Research Station, Agriculture Canada, 195 Dafoe Rd. Winnipeg, Man. R3T 2M9

Soltani, N. Laboratoire de Zoologie (ERA No, 231, Universite de Dijon) Facultes des Sciences, Bd. Gabriel 21100, Dijon, France.

Soltani,-Mazouni, N. Dep. de Biologie Animale, Universite de Annaba 23200, El-Hadjar, Algeria.

Soltani-Mazouni, N. Dep. de Biologie Animale, Univ. de Annaba, BP 12, 23000 Annaba, Algerie, France.

Sonleitner, FJ. Department of Zoology, University of Oklahoma, Norman OK 73019.

Sosa, M.E. Catedra Entomol. Dep. Bioquim. y Ciencias Biol., Univ. Nacional San Luis, Chacabuco y Pedernera, 5700 San Luis, Argentina.

Sosa-Gomez, DR. CIRPON Casilla de Correo 90 (4000), San Miguel de Tucuman, Argentina.

Souisse, R. Laboratoire de Biologie Animale, Faculte des Sciences de Tunis, Campus Universitaire, La Belvedere, Tunisia.

Springhetti, a. Istituto di Zoologia, Universita degli Studi, 44100 Ferrara, Italy.

Stevens, L. Department of Zoology, University of Vermont, Burlington, VT 05405 0086.

Storey, K.B. Carleton University, Ottawa, Ont., Canada.

Stuart, JJ. US Grain Marketing Laboratory, ARS, USDA, Manhattan, KS 66502.

Su, HCF. Stored Product Insects Research and Development Laboratory, USDA-ARS, Savannah, GA 31403.

Su, XZ. Parasitology Research Laboratory, Xiamen University, China.

Suss, L. Istituto di Entomologia Agraria, Universita degli

Studi, via Celoria 2, 20133, MIlan, Italy.

Svoboda, JA. Insect Neurobiol. & Hormone Lab., ARS, USDA, Beltsville, MD 20705.

Szafranek, J. Department of Chemistry, University of Gdansk, Sobieskiego 18, 80-952 Gdansk, Poland.

Szafranski, F. Faculte des Sciences, Universite de Kisangani, BP 1655, Kisangani, Zaire.

Taijing, J. Yanbian Medical College, Yanji, People's Republic of China.

Takiguchi, M. Nagoya Univ. Chigusa, Nagoya, Japan.

Talukder, FA. Department of Biol. Univ. of Southampton, Bassett Crescent East, Southampton, SO9 3TU, UK.

Tanaka, Y. Lab pesticide & Bio-organic Chem., Tokyo Univ., Setagaya-ku, Tokyo 156, Japan.

Tautz, D. Zoologisches Institut der Universitat Munchen, Luisenstrasse 14, 8000 Munich, Germany.

Tartes, U. Inst. Zool. Botany, Vanemuise 21, EE-2400 Tartu, Estonia.

Thie, N.M.R. University of Ottawa, Ottawa, Ontario, Canada.

Thompson, M. Department of Entomology, University of Wisconsin- Madison, Madison, WI 53706.

Throne, JE. USDA, ARS, Stored Prod. Insects Research & Devt Lab., 3401 Edwin St., Savannah, GA 31405

Thurston, G. S. Canad. Forest Serv., Maritimes, P.O. Box 4000, Fredericton, NB E3B 5P7 Canada.

Tomlin, E. Dep. Zool. Univ. Western Ontario, London, ON., Can. N6A 5B7

Toth, B. Baranya megyei Novenyegeszseguyi es Talajvedelmi Allomas Pes, Hungary.

Trematerra, P. Institute of Agricultural Entomology, University of Milan, 20133 Milan, Italy.

Tufail, N. Department of Zoology, University of Punjab, Lahore, Pakistan.

Tupy, JH. Department of Zoology, University of Toronto, Ont. M5S 1A1, Canada.

Tyshchenko, VP. Leningradskii Gosudarstvennyi Univ., Leningrad, USSR.

Tuzinkevich, AV. Institute of Automatics and Management Processes, Far East Branch of Russian Academy of Sciences, Ul. Radio 5, Vladivostok 690032, Russia.

Udeaan, AS. Department of Entomol., Punjab Agricultural University, Ludhiana 141 004, India.

Uetz, G.W. Dep. Zool., Univ. Cincinnati, Cinncinati, OH 45221-0006.

Ugarkovic, D. Dep. Mol. Genetics, Ruder Boskovic Inst., Bijenicka 54, 41000 Zagreb, Croatia.

Usui, T. Laboratory of Insect Toxicology, Institute of Physical and Chemical Research, Wako, Tokyo 194, Japan.

Verma, SB. Birsa Agricultural University, Ranchi, Bihar 834 007, India.

Via, S. Department of Entomology, Section of Ecology and Systematics, Cornell University, Ithaca, NY 14853-0999.

Vialaneix, C. Laboratoire de Chimie des Agroressources, Ecole Nationale Superiore de Chimie, INP Toulouse 31077, France.
Vijay, S. Division of Entomology, Indian Agric. Res. Inst.,New Delhi, 110 012 India.

Vinuela, E. Unidad de Proteccion de Cultivos, E.T.S.I. Agronomos, Ciudad Universitaria, 28040 Madrid, Spain.

Wade, MJ. Department of Ecology and Evolution, University of Chicago, Chicago, IL 60637.

Wang, OT. Department of Zoology, Duke University, Durham, NC 27706.

Warchalewski JR. Academia Roolnicza, Katedra Biochemii i Analizy Zywnosci, Ul Mazowiecka 48, 60-623 Poznan, Poland

Warui, CM. Pyrethrum Bureau, PO Box 420, Nakuru, Kenya.

Washio, H. Laboratory of Neurophysiology, Mitsubishi-Kasei Institute of Life Sciences, Machida, Tokyo 194, Japan.

Wigglesworth, V.B. Gonville and Caius College, Cambridge, UK.

Wilson, M. J. University of Bristol, Bristol, UK.

Wolf, K.W. Medizinischen Universitet zu Lubeck, Lubeck, Germany.

Yamamoto, D. Mitsubishi-Kasei INstitute of Life Sci., Machida, Tokyo 194, Japan.

Yokota, SD. Dep. Biology, University of California, Riverside, Calif. 92521.

Weaver, D. K. Macdonald College of MacGill University, Ste. Anne de Bellevue, Quebec, Canada.

Wegerhoff, R. INst. Angewandte Zool. An der Immenburg 1, D-53121 Bonn, Germany.

White, GG. Entomology Branch, Department of Primary Industries, Indooroopilly, Qld 4068, Australia.

White, NDG. Agric. Canada, Res. Station, 195-Dafoe Rd. Winnipeg, Man. R3T 2M9, Canada.

Wicklow, D.T. National Center for Agricultural Utilization Research, USDA, ARS, Peoria, IL 60604.

Wilson, M. J. Dep. Agric. Sci., Univ. Bristol., AFRC Inst. Arable Crops REs., Long Ashton Res. Stn., Bristol BS18 9AF, UK.

Wiedenmann, R.N. Purdue University, West Lafayette, Indiana.

Wintersteen, WK. Department of Entomology, Iowa State University, Ames, IA 50011.

Wohlgemuth, R. Institut fur Vorratsschutz, Biologische Bundesanstalt fur Land - und Forstwirtschaft, 1000 Berlin 33, Berlin, Germany.

Wontner-Smith, TJ. Central Science Lab., London Rd, Slough, Berkshire SL37HJ, UK.

Wool, D. Department of Zoology, George S. Wise Faculty of Life Sciences, Tel Aviv University, Ramat Aviv, 69978, Israel.

Wu, D.W. University of Notre Dame, Notre Dame, Indiana.

Xiong, XZ. Department of Plant Protection, Southwest Agricultural University, Chongqing 630716, Sichuan, China

Xu, L. University of Notre Dame, Notre Dame, IN.

Yamada, Y. Agricultural University of Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

Yamamoto, D. Mitsubishi Kasei Institute of Life Sciences, Machida, Tokyo, Japan.

Yan, G. 1994. Department of Zoology, University of Vermont, Burlington, VT 05405-0086

Yucel, A. Dicle Universitesi Ziraat Fakultesi, Sanlurfa, Turkey

Zabza, Inst. Organic Chem., Biochem. Biotechnology Technical Univ. Wroclaw, Wybrzeze S. Wyspinskiego 27, 50-370 Wroclaw, Poland.

Zanuncio, T.V. Dep. Biol. Anim., Univ. Fed. Vicosa:36570-000 Vicosa, Minas Gerais, Brazil.

Zettler, JL. Stored Products Insects Research and Development Laboratory, ARS, USDA Savannah, GA 31403.