

DAFTAR PUSTAKA

- Abenserg-Traun, M., G. W. Arnold, D. E. Steven, G. T. Smith, L. Atkins, J. J. Viveen & M. Gutter. 1996. Biodiversity Indicators in Semi-arid, Agricultural Western Australia. *Pacific Conservation Biology*. 2: 375 – 389.
- Ahmad, I., Sri wahyuningsih, S. Astari, R. E. Putra, and A. D. Permana. 2009. Monitoring pyrethroid resistance in field collected *Blattella germanica* Linn. (Dictyoptera: Blattellidae) in Indonesia. *Entomological Research* 39: 114-118.
- Ahmad, I., S. Susanti, Kustiati, S. Yusmalinar, R. Rahayu, dan N. Hariani. 2015. Resistensi Lalat Rumah, *Musca domestica* Linnaeus (Diptera: Muscidae) dari Empat Kota di Indonesia terhadap Permetrin dan Propoksur. *Jurnal Entomologi Indonesia* 12 (3): 123-128.
- Alon M, Alon F, Nauen R, and Morin S. 2008. Organophosphates' resistance in the B-biotype of *Bemisia tabaci* (Hemiptera: Aleyrodidae) is associated with a point mutation in an ace1 type acetylcholinesterase and overexpression of carboxylesterases. *Insect Biochemistry and Molecular Biology*. 38: 940-949.
- Appel, A. G. 2003. Laboratory and field performance of an indoxacarb bait against German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 96: 863 – 870.
- Appel, A. G. 2004. Contamination Affects The Performance of Insecticidal Baits Against German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 97: 2035 – 2042.
- Appel, A. G. and M. J. Tanley. 2000. Laboratory And Field Performance of An Imidacloprid Gel Bait Against German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 93: 112 – 118.
- Arif, S., M. K. Taj, K. Kamran, J. A. Tariq, I. Taj, A. Ahmed, Z. Ahmed, Ajaz-ul-Haq, F. Yousaf, and G. Mohammad. 2017. Effect of Insecticide on Cockroaches of Quetta City, Baluchistan. *Bulletin of Environment, Pharmacology and Life Sciences*. 6(4): 30 – 34.
- Bass C., M. Puinean, T. C. Zimmer, I. Denholm, L. M. Field, S. P. Foster, O. Gutbrod, R. Nauen, R. Slater, and M. S. Williamson. 2014. The Evolution of Insecticide Resistance in the Peach Potato Aphid, *Myzus persicae*. *Insect Biochemistry and Molecular Biology*. 51: 41-51.

Basset, Y., H.-P. Aberlenc, H. Barrios and G. Curletti. 2003. Arthropod Diel Activity and stratification. In Arthropods of Tropical Forests: Spatio-Temporal Dynamics and Resource Use in the Canopy. Y. Basset, V. Novotny, S. E. Miller and R. L. Kitching, editors. Cambridge University Press, Cambridge. 304 – 314.

Baumholtz, M.A., L. C. Parish, J. A. Witkowski, and W. B. Nutting. 1997. Review: The Medical Importance of Cockroach. *International Journal of Dermatology*. 36, 90-96, Blackwell Science Ltd.

Beebe, W. 1953. Unseen Life of New York as a Naturalist Sees it. Duell, Sloan and Pearce, New York. 165 pp.

Bell, W. J., L .M. Roth., and C. A. Nalepa. 2007. Cockroaches: Ecology, Behavior, and Natural History. The Johns Hopkins University Press. Baltimore.

Bioassay System. 2007. QuantiChrom™ Acetylcholinesterase Assay Kit (DACE-100). 3191 Corporate Place, Hayward, CA 94545, USA.

Bizzaro, D., E. Mazzoni, E. Barbolini, S. Giannini, S. Cassanelli, F. Pavesi, P. Cravedi, and G. C. Manicardi. 2005. Relationship among expression, amplification and methylation of FE4 esterase genes in Italian populations of *Myzus persicae* (Sulzer) (Homoptera: Aphididae). *Pesticide Biochemistry and Physiology*. 81: 51-58.

Bloomquist, J. R. 2009. Insecticides: Chemistries and Characteristics. Department of Entomology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. <http://ipmworld.umm.edu/chapters/-bloomq.htm> diakses pada 4 Juni 2017.

Brenner, R. J. 1995. Medical and economic significance, pp. 77–92. In M. K. Rust, J. M. Owens, and D. A. Reiterson (eds.), Understanding and controlling the German cockroach. Oxford University Press, New York.

Brogdon, W. G. and J. C. McAlister. 1998. *Synopses Insecticide Resistance and Vector Control, Emerging Infectious Disease*, 4(4): 605-613.

Cao, C. W., J. Zhang, X. W. Cao, P. Liang, and H. L. Cuo. 2008. Overexpression of carboxylesterase gene associated with organophosphorous insecticide resistance in cotton aphids, *Aphis gossypii* (Glover). *Pesticide Biochemistry and Physiology*. 90: 175 – 180.

Campbell, P. M., R. D. Newcomb, R. J. Russell, and J. G. Oakeshott. 1998. Two different amino acid substitutions in the ali-esterase, E3, confer alternative types of organophosphorus insecticide resistance in the sheep blowfly, *Lucilia cuprina*. *Insect Biochemistry and Molecular Biology*. 28: 139-150.

- Carvalho, R. A., T. Torres, and A. M. L. Azeredo-Espin. 2006. A survey of mutations in the *Cochliomyia hominivorax* (Diptera: Calliphoridae) esterase E3 gene associated with organophosphate resistance and the molecular identification of mutant alleles. *Veterinary Parasitology*. 140: 344-351.
- Chai, R. Y. and C .Y. Lee. 2010. Insecticide Resistance Profiles and Sinergism in Field Populations of the German Cockroach (Dictyoptera: Blattellidae) from Singapore. *Journal of Economic Entomology*. 103: 460-471.
- Chang, S. K., E. H. Shin, J. S. Jung, C. Park, and Y. Ahn. 2010. Monitoring for Insecticide Resistance in Field-Collected Populations of *Blattella germanica* (Blattaria: Blattellidae). *Journal of Asia-Pacific Entomology*. 13: 309-312.
- Chapman, P.A., J. Learmount, and D. B. Pinniger. 1993. Insecticide Resistance in *Blattella germanica* (L.) in the United Kingdom. *Proceedings of the First International Conference on Urban Pest*. 125-133.
- Claudianos, C., R. J. Russell, and J. G. Oakeshott. 1999. The same amino acid substitution in orthologous esterases confers organophosphate resistance on the house fly and a blowfly. *Insect Biochemistry and Molecular Biology*. 29: 675-686.
- Cochran, D. G. 1995. Insecticide Resistance, pp. 171-192. In Rust, M.K., Owens, J.M., Reierson, D.A. (eds.), Understanding and Controlling the German Cockroach. Oxford University Press, New York.
- Cochran, D. G. 1997. Misuse of the Tarsal-Contact Method for Detecting Insecticide Resistance in the German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 90 (6): 1441 - 1444.
- Cochran, D. G. 2003. Blattodea (Cockroaches). In: Resh, V. H. and R. T. Carde. 2003. *Encyclopedia of Insects*. Elsevier Science. California.
- Cochran, D. G. and M. H. Ross. 1962. Inheritance of DDT-Resistance in a European Populasi of *Blattella germanica* (L.). *Bulletin of the World Health Organization*. 27: 257-261.
- Cornwell, P.B. 1968. The Cockroach Vol. 1, A Laboratory Insect and an Industrial Pest. London: Hutchinson.
- Danks, H.V. 1981. Arctic Arthropods: A Review of Systematics and Ecology with Particular Reference to the North American Fauna. Entomological Society of Canada, Ottawa. 608 pp.

- David, J.P., H.M. Ismail, A. Chandor-Proust, and M.J.I. Paine. 2013. Role of cytochrome P450s in insecticide resistance: impact on the control of mosquitos-borne diseases and use of insecticides on Earth. *Philosophical Transaction of The Royal Society B*. 368.
- Dehkordi, A. S., Y.S. Abadi, H. Nasirian, T. Hazratian, M. A. Gorouhi, S. Yousefi, and A. Paksa. 2017. Synergists action of piperonil butoxide and S,S,S-tributyl phosphorothioate on toxicity of carbamate insecticides against *Blattella germanica*. *Asian Pacific Journal of Tropical Medicine*. 10(10): 981 – 986.
- Delaplane, K. S. 2000. Pesticide usage in the United States: history, benefits, risks and trends. *Univ. Georg. Coll. Agric. Environ. Sci. Bull.* 1121/Reprint Novemb.
- Direktorat Pupuk dan Pestisida. 2004. *Metoda Pengujian Efikasi Hygene Lingkungan*. Departeman Pertanian Republik Indonesia. Jakarta.
- Dong, K., S. M. Valles, M. E. Scharf, B. Zeichner, and G.W. Bennett. 1998. The Knockdown Resistance (kdr) Mutation in Pyrethroid-Resistance German Cockroaches. *Pesticide Biochemistry and Physiology*. 60: 195-204.
- Fardisi, M., A. D. Gondhalekar and M. E. Scharf. 2017. Development of Diagnostic Insecticide Concentrations and Assessment of Insecticide Susceptibility in German Cockroach (Dictyoptera: Blattellidae) Field Strains Collected From Public Housing. *Journal of Economic Entomology*. 1 – 8.
- Field, L.M., A.L. Devonshire, and B.G. Forde. 1988. Molecular evidence that insecticide resistance in peachpotato aphids (*Myzus persicae* Sulz.) results from amplification of an esterase gene. *Biochemical Journal*. 251: 309-312.
- Finney, D. J. 1971. *Probit Analysis*. 3rd ed, Cambridge University Press, London.
- Forbes, S. L. and D. O. Carter. 2015. Processes and Mechanisms of Death and Decomposition of Vertebrate Carrion. in Benbow M.E. Benbow, J.K. Tomberlin and A.M. Tarone. Carrion Ecology, Evolution, and Their Applications. CRC Press. New York. 13-27.
- Frank, C. L. 1995. Toksikologi Dasar (Asas, Organ Sasaran, dan Penilaian Resiko). Penerbit Universitas Indonesia. Jakarta.
- Georghiou, G. P. 1972. The evolution of resistance to pesticides. *Annual Review of Ecology and Systematics*. 3: 133 – 168.
- Gillott, C. 2005. Entomology, Third Edition. Springer. Netherlands.

- Gholizadeh, S., B. Nouroozi, and H. Ladonni. 2014. Molecular Detection of Knockdown Resistance (*kdr*) in *Blattella germanica* (Blattodea: Blattellidae) From Northwestern Iran. *Journal of Medical Entomology*. 51(5): 976-979.
- Gondhalekar, A. D. and M. E. Scharf. 2012. Mechanisms underlying fipronil resistance in a multi-resistant field population of the German cockroach (Blattodea: Blattellidae). *Journal of Medical Entomology*. 49 (1): 122-131.
- Guthrie, D.M., and A.R. Tindall. 1968. The Biology of the Cockroach. Edward Arnold Ltd., London. 408 pp.
- Hansen, K. K., M. Kristensen and K. M. V. Jensen. 2005. Correlation of Resistance-Associated Rdl Mutation in the German Cockroach, *Blattella germanica* (L), Eight Persistent Resistance in Two Danish Field Population. *Pest Management Science*. 61(8): 749 – 753.
- Heal, R. E., K. B. Nash and M. Williams. 1953. An Insecticide Resistance Strain of the German Cockroach from Corpus Christi, Texas. *Journal of Economic Entomology*. 46: 385 – 386.
- Hemingway, J. and G. J. Small. 1993. *Resistance Mechanisms in Cockroaches – the Key to Control Strategies*. Proceedings of the First International Conference on Urban Pests: 141-152. London.
- Hemingway, J., G. J. Small, and A. G. Monro. 1993. Possible Mechanisms of Organophosphate and Carbamate Insecticide Resistance in German Cockroaches (Dictyoptera: Blattellidae) from Different Geographical Areas. *Journal of Economic Entomology*. 86: 1623 – 1630.
- Hemingway, J., N.J. Hawkes, L. McCarroll, and H. Ranson. 2004. The molecular basis of insecticide resistance in mosquitoes. *Insect Biochemistry and Molecular Biology*. 34: 653 - 665.
- Hollingworth, R. M., and K. Dong. 2008. The biochemical and molecular genetic basis of resistance to pesticides in arthropods. In: Whalon ME, MotaSanchez D, Hollingworth RM (eds), Global pesticide resistance in arthropods, CABI, Wallingford, UK, pp 5-31.
- Jacobs, S. B. 2007. Entomological Notes: German Cockroaches (*Blattella germanica* (L.)). Pennsylvania State University. United State of America.
- Jannatan, R., R. Rahayu, H. Herwina and N. Nasir. 2017. Toxicity of Citronella Grass Essential Oil (*Cymbopogon nardus* (L.) Rendle) to Female and Nymph German Cockroaches (*Blattella germanica* (L.)). *Research*

Journal of Pharmaceutical, Biological and Chemical Sciences 8(1): 1763 – 1769.

- Jensen, K.-m. V. 1993. *Insecticide Resistance in Blattella germanica (L.) (Dictyoptera: Blattellidae) from Food Producing Establishments in Denmark*. Proceedings of the First International Conference on Urban Pest Environment. Denmark.
- Kristensen, M., K. K. Hansen and K.-M. V. Jensen. 2005. Cross-Resistance between Dieldrin and Fipronil in German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 98(4): 1305 – 1310.
- Kostyukovsky, M., R. Ada, G. Carina, D. Nataly and S. Eli. 2002. Activation of Octopaminergic Receptors by Essential Oil Constituents Isolated from Aromatic Plants: Possible Mode of Action Against Insect Pests. *Pest Management Science*. 58(11): 1101-1106.
- Layton, B. 1914. Household Pest Control. Missisipi State University, Extension Service. USA.
- Lee, C.Y., H.H. Yap and N.L. Chong. 1996. Insecticide resistance and synergism in field collected German cockroaches (Dictyoptera: Blattellidae) in Peninsular Malaysia. *Bulletin of Entomological Research*. 86: 675-682.
- Lee, C. Y., L. C. Lee, B. H. Ang and N. L. Chong. 1999. *Insecticide Resistance in Blattella germanica (L.) (Dictyoptera: Blattellidae) from Hotels and Restaurants in Malaysia*. Proceedings of the 3rd International Conference on Urban Pests: 171 – 181.
- Lee, C. Y., C. Y. Lim, and I. Darah. 2002. Survey on structure-infesting ants (Hymenopiea: Formicidae) in food preparative outlets. *Tropical biomedicine* 19 (1/2): 21-26.
- Lee, L. C. and C. Y. Lee. 2004. Insecticide Resistance Profile and Possible Underlying Mechanisms in German Cockroaches, *Blattella germanica* (Linnaeus) (Dictyoptera: Blattellidae) from Peninsular Malaysia. *Medical Entomological Zoology*. 55 (2): 77 – 93.
- Lee, C. Y. 2007. *Perspective in Urban Insect Pest Management in Malaysia*. Universiti Sains Malaysia. Penang.
- Lee, C. Y. and L. C. Ng. 2009. *Pest Cockroaches of Singapore: A Scientific Guide for Pest Management Professionals*. P&Y Design Network. Malaysia.

- Limoe, M., A. A. Enayati, K. Khassi, M. Salimi and H. Ladonni. 2011. Insecticide Resistance and Sinergism of Three Field-Collected Populations of the German Cockroach *Blattella germanica* (L.) (Dictyoptera: Blattellidae) from Hospitals in Kermanshah, Iran. *Tropical Biomedicine*. 28 (1): 111-118.
- Madona, W.R., R. Rahayu, Dahelmi dan N. Hariani. 2015. Efektivitas Insektisida Komersial Terhadap Kecoak Jerman (*Blattella germanica* L.) strain VCRU-WHO, GFA-JKT dan PLZ-PDG dengan Metode Kontak (Glass Jar). *Jurnal Biologi Universitas Andalas*. 4(2): 113 – 118.
- Mairawita, R. Rahayu, Dahelmi dan R. Jannatan. 2014. *Inventarisasi Kecoak di Pasar Tradisional dan Rumah Sakit di Kota Padang Sumatra Barat*. Prosiding Seminar Nasional Biodiversitas dan Ekologi Tropika Indonesia (BioETI). Universitas Andalas. Padang.
- Moemenbellah-Fard, M. D., M. Fard, M. R. Fakoorziba, K. Aziz and M. M. Nodezh. 2013. Carbamate Insecticides Resistance Monitoring of Adult Male German Cockroaches, *Blattella germanica* (L.), in Southern Iran. *Journal Health Science Surveillance System*. 1(1): 41 – 47.
- Naqqash, M. N., A. Gökçe, A. Bakhsh and M. Salim. 2016. Insecticide resistance and its molecular basis in urban insect pest. *Parasitology Research*. Springer.
- Onstad, D. W. 2008. Insect Resistance Management: Biology, Economics and Prediction First Edition. Elsevier Ltd. USA.
- Oppenoorth, F.J., and K. van Asperen. 1960. Allelic genes in the housefly producing modified enzymes that cause organophosphate resistance. *Science*. 132: 298-299.
- Pai, Hsi-Hua., Shu-Ching Wu, and Err-Lieh Hsu. 2005. Insecticide Resistance in German Cockroaches (*Blattella germanica*) from Hospital and Household in Taiwan. *International Journal of Environmental Health Research* 15 (1): 33-40.
- Pedigo, L. P. 1989. Entomology and Pest Management. Macmillan Publishing Company. United States of America.
- Pedigo, L. P. 1996. Entomology and Pest Management. 3rd eds, Prentice Hall Inc. New Jersey. 359 – 439.
- Pittendrigh, B. R., V. M. M. Margam, L. Sun and J. E. Huesing. 2008. Resistance in the Post-Genomic Age. In: Onstad, D. W. 2008. *Insect Resistance Management: Biology, Economics and Prediction*. University of Illinois. United State of America.

- Pridgeon, J. W., A. G. Appel, W. J. Moar and N. Liu. 2002. Variability of Resistance Mechanisms in Pyrethroid Resistant German Cockroaches (Dictyoptera: Blattellidae). *Journal Pesticide Biochemistry and Physiology*. 73: 149 – 156.
- Qian, K., XQ. Wei, XP. Zeng, T. Liu, and XW. Gao. 2010. Stage-dependent tolerance of the german cockroach, *Blattella germanica* for dichlorvos and propoxur. *Journal of Insect Science*. 10(201): 1 – 10.
- Rahayu, R. 2011. Status dan Mekanisme Resistensi serta Fitness *Blattella germanica* L. (Dictyoptera: Blattellidae) Asal Bandung, Jakarta dan Surabaya Terhadap Propuksur, Permetrin dan Fipronil. [Disertasi]. Institut Teknologi Bandung. Bandung.
- Rahayu, R., I. Ahmad, E. Sri Ratna, M. I. Tan and N. Hariani. 2012. Present Status of Carbamate, Pyrethroid and Phenylpyrazole Insecticide Resistance to German Cockroach, *Blattella germanica* (Dictyoptera: Blattellidae) in Indonesia. *Journal of Entomology*. 9 (6): 361-367.
- Rahayu, R., W. R. Madona, W. Bastari, Dahelmi, and R. Jannatan. 2016. Resistance Monitoring of Some Commercial Insecticides to German Cockroach (*Blattella germanica* L.) in Indonesia. *Journal of Entomology and Zoology Studies*. 4(6): 709 – 712.
- Raymond, M., C. Chevillon, T. Guillemaud, T. Lenormand, and N. Pasteur. 1998. An overview of the evolution of overproduced esterases in the mosquito *Culex pipiens*. *Philosophical Transactions of the Royal Society B Biological Sciences*. 353: 1707-1711.
- Rivi, M., V. Monti, E. Mazzoni, S. Cassanelli, M. Panini, M. Anaclerio, M. Cigolini, B. Corradetti, D. Bizzaro, M. Mandrioli, and G.C. Manicardi. 2013. A1-3 chromosomal translocations in Italian populations of the peach potato aphid *Myzus persicae* (Sulzer) not linked to esterase-based insecticide resistance. *Bulletin of Entomology Research*. 103: 278-285.
- Robinson, W.H. 1996. *Urban Entomology, Insect and Mites Pests in the Human Environment*. Chapman and Hall. London, 3 – 163.
- Ross, M. H. and D. E. Mullins. 1995. Biology. In: Rust, M. K., J. M. Owens and D. A. Reierson. 1995. *Understanding and Controlling the German Cockroach*. Oxford University Press. New York.
- Roth, L.M., and E.R. Willis. 1960. The biotic associations of cockroaches. *Smithsonian Miscellaneous Collections*. 141:1– 470.

Rust, M. K. 1995. Factor affecting control with insecticides, pp. 149-170. In Rust, M.K., Owens, J.M., Reirson, D.A. (eds), Understanding and Controlling the German Cockroach. Oxford University Press, New York.

Scharf, M. E., Jonathan, J. N., and Gary, W. B. 1998. Changes of Insecticide Resistance Levels and Detoxication Enzymes Following Insecticide Selection in the German Cockroach, *Blattella germanica* (L.). *Pesticide Biochemistry And Physiology* 59: 67-79.

Severini, C., M. Marinucci, and M. Raymond. 1994. Insecticide resistance genes in *Culex pipiens* (Diptera: Culicidae) from Italy: esterase B locus at the DNA level. *Journal of Medical Entomology*. 3: 496-9.

Shahi, M., A. A. Hanafi-Bojd and H. Vatandoost. 2008. Evaluation of Five Local Formulated Insecticides against German Cockroach (*Blattella germanica* L.) in Southern Iran. *Iranian Journal Arthropod-Borne Diseases*. 2(1): 21 – 27.

Siegfried, B. D., J. G. Scott, R. T. Roush and B. C. Zeichner. 1990. Biochemistry and Genetic of Chlorpyrifos Resistance in the German Cockroach, *Blattella germanica* (L.). *Pesticide Biochemistry and Physiology*. 38: 110-121.

Siegfried, B. D., and J. G. Scott. 1992. Biochemical Characterization of Hydrolytic and Oxidative Enzymes in Insecticide Resistant and Susceptible Strain of the German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 85 : 1092 – 1098.

Sinclair, B.J. 2001. Field ecology of freeze tolerance: interannual variation in cooling rates, freeze-thaw and thermal stress in the microhabitat of the alpine cockroach *Celatoblatta quinquemaculata*. *Oikos*. 93:286–293.

TOXNET. 1986. National Library of Medicine's Toxicology Data Network.

Untung, K. 2008. Manajemen Resistensi Pestisida Sebagai Penerapan Pengelolaan Hama Terpadu. <http://cdsindonesia.wordpress.com/2008/04/08/-manajemen-resistensi-pestisida-sebagai-penerapan-pengelolaan-hama-terpadu/>. Diakses pada 7 Juli 2018.

USDA. 1992. The Biologic and Economic Assessment of Propoxur. NAPIAP, Extension Service, USDA, Washington, DC.

Vale, A. And M. Lotti. 2015. Organophosphorus and Carbamate Insecticide Poisoning. Handbook of Clinical Neurology, Vol. 131 (3rd series), Chapter 10.

- Valles, S. M., and S. J. Yu. 1996. Detection and Biochemical Characterization of Insecticide Resistance in the German Cockroach (Dictyoptera: Blattellidae). *Journal of Economic Entomology*. 89(1): 21 – 26.
- Valles, S. M., K. Dong and R. J. Brenner. 2000. Mechanisms Responsible for Cypermethrin Resistance in a strain of German Cockroach, *Blattella germanica*. *Pesticide Biochemistry and Physiology*. 66: 195 – 205.
- Valles, S. 2014. German Cockroach, *Blattella germanica* (Linnaeus) (Insecta: Blattodea: Blattellidae). *IFAS Extension*. University of Florida. <http://entomology.ifas.ufl.edu/creatures>. Diunduh 4 Juni 2017.
- Villatte, F., P. Zilaini, V. Marcel, P. Menoz and D. Fournier. 2000. A High Number of Mutations in Insect Acetylcholinesterase May Provide Insecticide Resistance. *Pesticide Biochemistry and Physiology*. 67: 95 – 102.
- Wei, Y., A. G. Appel, W. J. Moar and N. Liu. 2001. Pyrethroid Resistance and Cross-Resistance in the German Cockroach, *Blattella germanica* (L.). *Journal Pest Management Science*. 57: 1055 – 1059.
- Weill, M., C. Malcolm, F. Chandre, K. Mogensen, A. Berthomieu, M. Marquine and M. Raymond. 2004. The Unique Mutation in Ace-1 Giving High Insecticide Resistance is Easily Detectable in Mosquito Vectors. *Insect Molecular Biology*. 13: 1 – 7.
- Whitworth, R. J. 2007. *Household Pest; Cockroaches*. Kansas State University. USA.
- WHO. 1963. Tentative Instructions for Determining the Susceptibility or Resistance of Cockroaches to Insecticides. In: WHO. 1963. Insecticides Resistance and Vector Control. *World Health Organization Technical Report Series*. 265: 127-130.
- WHO. 1999. Cockroaches, Their Biology, Distribution and Control. *World Health Organization Communicable Diseases Prevention and Control, WHO Pesticides Evaluation Scheme (WHOPES)* www.who.int/whopes/resources/who_cds_cpc_whopes_99.3/en/ - 61k.
- Wickham, J. C. 1995. Conventional insecticides, pp. 109-148. In Rush, M.K., Owens, J.M., Reiersen, D.A. (eds), Understanding and Controlling the German Cockroach. Oxford University Press, New York.
- Widiarti, Suskamdani and Mujiono. 2009. Resistensi Vektor Malaria terhadap Insektisida di Dusun Karyasari dan Tukatpule Pulau Bali dan desa lendang

- Ree dan Labuhan Haji Pulau Lombok. *Art. Media Penelitian dan Pengembangan Kesehatan*. 19(3): 154 – 164.
- Wu, X. and A. G. Appel. 2017. Insecticide Resistance of Several Field-Collected German Cockroach (Dictyoptera: Blattellidae) Strains. *Journal of Economic Entomology*, 1-7.
- Wolda, H., F.W. Fisk, and M. Estribi. 1983. Faunistics of Panamanian cockroaches (Blattaria). *Uttar Pradesh Journal of Zoology*. 3:1–9.
- Worland, M.R., D.A. Wharton, and S.G. Byars. 2004. Intracellular freezing and survival in the freeze tolerant alpine cockroach *Celatoblatta quinquemaculata*. *Journal of Insect Physiology*. 50:225–232.

