

DAFTAR PUSTAKA

- Allwood, A. J. and LeBlanc, L. 1997. Losses caused by fruit flies in seven Pacific island countries. In: Allwood, A. J. and Drew, R. A. I. (eds). Management of fruit flies in the Pacific. Canberra, Proceedings of Australian Centre for International Agricultural Research (ACIAR). 76: 208-211.
- Aluja, M., and Liedo, P. 1993. Fruit Flies: Biology and Management. New York: Springer public.
- Andrew, D. H. and Anthony, R. C. 2006. The influence of soil type and moisture on pupal survival of *Bactrocera tryoni* Froggatt (Diptera: Tephritidae). Australian Journal of Entomology. 45: 16-19.
- Anonim. 2007. Crop Protection Compendium. Wallingford: Center in Agricultural and Biological Institute (CABI).
- Anonim. 2017. Statistik Badan Karantina Pertanian. Badan Karantina Pertanian.
- Anonim. 2018. Statistik Perdagangan Luar Negeri Indonesia Ekspor 2017. Jakarta (ID): BPS RI.
- Anonim. 2023. Statistik Indonesia Tahun 2023. Jakarta Pusat : Badan Pusat Statistik.
- Arum, E.K., Affandi, M., & Hariyanto, S. 2020. Diversity of Fruit Flies (Tephritidae: *Bactrocera* Spp.) in Campus C of Airlangga University, Surabaya, Indonesia. TREUBIA, 47(2), 111-122.
- Bautista, R.C., Harris, E.J., and Lawrence, P.O. 1998. Biology and Rearing of The Fruit Fly Parasitoid *Biosteres arisanus*: Clues to Insectary Propagation. Entomologia Experimentalis et Applicata, 89: 79-85.
- Bengtsson J., Anhstrom J., Weibull A.C. 2005. The effects of organic agriculture on biodiversity and abundance: a meta-analysis. Journal of Applied Ecology 42: 261–269.
- Bess, H.A., van den Bosch R., Haramoto F.H. 1950. Progress and status of two recently introduced parasites of the oriental fruit fly, *Dacus dorsalis* Hendel, in Hawaii. Proc. Hawaii. Entomol. Soc. 14: 29-33
- Carey, J. R. and Dowell, R. V. 1989. Exotic fruit pests and California agriculture. California Agriculture. 43: 38-40.
- Daniel, F. L., Vicente, H. O, and Liliana, L. M. 2009. Description of the third-instar of *Anastrepha leptozona* Hendel (Diptera: Tephritidae). Neotropical
- Danjuma, S., 2013. Biodiversity of fruit fly *Bactrocera* spp.(Diptera: Tephritidae) in peninsular Thailand and population ecology of some species on guava *Psidium guajava* L (Doctoral dissertation, Prince of Songkla University).
- Deguine, J.-P., Duval, M., Quilici, S., Moutoussamy, M.-L., Ajaguin-Soley, C., Laurent P. 2008. The augmentorium: a sanitation technique for controlling Tephritid Fruit Flies in Reunion Island. Poster Session. Proceedings of the Endure Network International

- Desurmont, G.A., Tannières, M., Roche, M., Blanchet, A. and Manoukis, N.C., 2022. Identifying an Optimal Screen Mesh to Enable Augmentarium-Based Enhanced Biological Control of the Olive Fruit Fly *Bactrocera oleae* (Diptera: Tephritidae) and the Mediterranean Fruit Fly *Ceratitis capitata* (Diptera: Tephritidae). *Journal of Insect Science*, 22(3), p.11.
- Drew, R. A. I and Lloyd, A. C. 1989. Biology and Physiology; nutrition; bacteria associated with fruit flies and their host plants, In: Robinson, A. S. and Hooper, G. H. S. (eds). Fruit flies; Their Biology, Natural Enemies and Control. Elsevier. Amsterdam, Netherlands. World Crop Pests. 3(A). pp. 131-140.
- Effendi. B.S. 2009. Strategi pengendalian hama terpadu tanaman padi dalam perspektif praktek pertanian yang baik (Good Agricultural Practices). Pengembangan Inovasi Pertanian. Balai Besar Penelitian Tanaman Padi. Sukamandi. Subang 2.1: 65-78.
- Feriyanto, N., Maharika, I.F., & Firdaus, F. 2017. Diversifikasi Komoditas Pangan Unggulan Lokal Berbasis Agropolitan di Daerah Kabupaten Sleman Di Yogyakarta. *Teknoin*, 23(2).
- Fitrah, R., 2020. Keefektifan Buah Pemerangkap Lalat Buah (Diptera: Tephritidae) pada Pertanaman Salak Pondoh di Kecamatan Tempel dan Kecamatan Turi (Doctoral dissertation, Universitas Gadjah Mada).
- Fletcher, B. S. 1987. The biology of dacinae fruit flies. *Annual Review of Entomology*. 32: 115-144.
- Frias, L. D., Herndndez-Ortiz, V., Vaccaro, N., Bartolucci, A. and Salles, L. A. 2006. Comparative morphology of immature stages of some frugivorous species of fruit flies (Diptera: Tephritidae). *Israel Journal of Entomology*. 37: 536-545.
- Geden, C.J. and Hogsette, J.A. 2006. Suppression of house flies (Diptera: Muscidae) in Florida poultry houses by sustained releases of *Muscidifurax raptorellus* and *Spalangia cameroni* (Hymenoptera: Pteromalidae). – *Environmental Entomology* 35(1):75-82.
- Gerling, D. and Legner, E.F., 1968. Developmental history and reproduction of *Spalangia cameroni*, parasite of synanthropic flies. *Annals of the Entomological Society of America*, 61(6), pp.1436-1443.
- Ginting R. 2009. Keanekaragaman lalat buah (Diptera: Tephritidae) di Jakarta. Depok. dan Bogor sebagai bahan kajian penyusunan analisis resiko hama.[Tesis]. Bogor: Fakultas Pertanian. Institut Pertanian Bogor
- Girling, R.D., Stewart-Jones, A., Dherbecourt, J., Staley, J.T., Wright, D.J., Poppy, G.M. 2010. Parasitoids select plants more heavily infested with their caterpillar hosts: a new approach to aid interpretation of plant headspace volatiles. *Proceedings of the Royal Society B*, 277(1678): 1–8.
- Girolami, V. 1983. Fruit fly symbiosis and adult survival: general aspects. In: Cavalloro, R. (ed), Fruit Flies of Economic Importance. Balkima, Rotterdam. Athens. Proceedings of the CEC/IOBC International Symposium. pp. 74-16.

- Hamid H., Buchori D., Triwidodo H. 2003. "Keanekaragaman parasitoid dan parasitisasinya pada pertanaman padi di kawasan Taman Nasional Gunung Halimun." *Jurnal HAYATI Biosciences*, 10:85–90.
- Haramoto, F. H. and Bess, H. A. 1970. Recent studies on the abundance of the oriental and Mediterranean fruit flies and the status of their parasites. *Proc. Hawaii. Entomol. Soc.* 20: 551-566.
- Hasyim, A., Lukman, L. and Setiawati, W., 2020. Teknologi pengendalian hama lalat buah.
- Heimpel, G.E. and Casas, J., 2008. Parasitoid foraging and oviposition behavior in the field. *Behavioral ecology of insect parasitoids: from theoretical approaches to field applications*, pp.52-70.
- Herlina, N., Rizali, A., Moerfiah., Sahari, B., Buchori, D. 2011. Effect of rice field surrounding habitat and age of rice plant on the diversity of Parasitic Hymenoptera. *Jurnal Entomologi Indonesia* 8: 17–26.
- Herlinda, S., Mayasari, R., Adam, T., Pujiastuti, Y., Windusari, Y. 2007. Populasi dan serangan lalat buah *Bactrocera dorsalis* (Hendel) (Diptera: Tephritidae) serta potensi parasitoidnya pada pertanaman cabai (*Capsicum annum* L.). Kongres Ilmu Pengetahuan Wilayah Indonesia Bagian Barat.
- Herlinda, S., Zuroaidah, S., Pujiastuti, Y., Samad, S., Adam, T. 2008. Spesies lalat buah yang menyerang sayuran *Solanaceae* dan *Cucurbitaceae* di Sumatera Selatan. *Jurnal Hortikultura* 18(2) : 212-220.
- Howard, D. J. 1989. Biology and physiology; nutrition; the symbionts of *Rhagoletis*, In; Robinson, A. S. and Hooper, G. H. S. (eds), *Fruit flies; their biology, natural enemy and control*. *World Crop Pests*. 3: 121-129.
- Kalyebi, A., Overholt, W.A., Schulthess, F., Mueke, J.M., Sithanantham, S., 2006. The effect of temperature and humidity on the bionomics of six African egg parasitoids (Hymenoptera: Trichogrammatidae). *Bulletin of Entomological Research*, 96(3), pp.305-314.
- Kuswadi. 2005. Panduan Lalat Buah. ([http://www.deptan.go.id/ditlinhorti/makalah/lalat buah/ttln](http://www.deptan.go.id/ditlinhorti/makalah/lalat_buah/ttln)),
- Legner, E. F., Bay, E. C., and White, E. B. 1967. Activity of parasites from Diptera: *Musca domestica*, *Stomoxys calcitrans*, *Fannia canicularis*, and *F. femoralis*, at sites in the Western Hemisphere. *Ann. Entomol. Soc. Am.* 60: 462-468.
- Maharani D. 2009. Infentarisasi dan Identifikasi Parasitoid Telur Penggerek Batang Padi Putih (*Scirpophaga innotata* Wlk.) (Lepidoptera : Pyralidae) pada Pertanaman Padi Di Desa Sidera Kecamatan Sigi Biromaru. Skripsi : Program Studi Agroteknologi. Fakultas Pertanian. Universitas Tadulako. Palu.
- Murtiana, I., 2011. Identifikasi Parasitoid Lalat Buah (Diptera: Tephritidae) pada Berbagai Tanaman Hortikultura di Kabupaten Sleman, Daerah Istimewa Yogyakarta (Doctoral dissertation, UIN Sunan Kalijaga Yogyakarta).
- Nugraha, M.N., Buchori, D., Nurmansyah, A. and Rizali, A., 2014. Interaksi tropik antara hama dan parasitoid pada pertanaman sayuran: faktor pembentuk dan implikasinya terhadap keefektifan parasitoid. *Jurnal Entomologi Indonesia*, 11(2), pp.103-103.

- Palacio, I.P. and Ibrahim, R., 1991. Interspecific competition among opiine parasitoids of the oriental fruit fly, *Bactrocera dorsalis* (Hendel). *Philippine Entomologist*, 8.
- Pérez-Hinarejos, M. and Beitia, F.J., 2008. Parasitism of *Spalangia cameroni* (Hymenoptera, Pteromalidae), an idiobiont parasitoid on pupae of *Ceratitis capitata* (Diptera, Tephritidae). In *International Conference on Integrated Control in Citrus Fruit Crops* (pp. 130-133). IOBC/wprs
- Purnomo, H. 2010. Pengantar Pengendalian Hayati. Yogyakarta: ANDI.
- Raharjo, O.D., Suputa dan A.T. Arminuddin,. 2005. Native Natural Enemies of Fruit Flies (Diptera : Tephritidae) dalam Yogyakarta. Scientific Poster. International Conference of Crops Security. Brawijaya University. Malang East Java. Indonesia.
- Rossi-Stacconi, M.V., Brewer, L.J., Miller, B., Dalton, D.T., Lee, J.C.-T., Park, K., Pfab, F., Walton, V.M., Da Silva, C.B. 2019. Biocontrol of Spottedwing Drosophila, OR State University Extension Service: 1–3.
- Rousse, P., Harris E. J., Quilici S. 2005. *Fopius arisanus*, an egg-pupal parasitoid of Tephritidae. *Biocontrol News and Information* 26 (2), S9N-69N
- Rusch, A., Valantin-Morison, M., Sarthou, J.-P., Roger-Estrade, J. 2010. Biological Control of Insect Pests in Agroecosystems: Effects of Crop Management, Farming Systems, and Seminatural Habitats at the Landscape Scale: A Review. Dalam: Donald LS (Ed.), *Advances in Agronomy*, hal. 219–259. Academic Press.
- Russell, D. A. 1987. Simple Method for Improving Estimates of Percentage Parasitism. *New Zealand Entomologist*, 10: 38–40.
- Salerno G., Colazza S., Conti E. 2002. Sub-lethal effects of deltamethrin on walking behavior and response to host kairomone of the egg parasitoid *Trissolcus basalis*. *Pest Management Science*, 58: 663–668.
- Sauers-Muller, A.V. 1991. An overview of the Carambola fruit fly *Bactrocera* species (Diptera: Tephritidae), found recently in Suriname. *Florida Entomologists*. 74: 432-440.
- Sayuthi, M., Hasnah, H., Rusdy, A. and Noera, C.D.P.S., 2019. March. Distribution of fruit flies (Diptera: Tephritidae) at traditional markets in Aceh Province. In *Prosiding Seminar Nasional Masyarakat Biodiversitas Indonesia* (Vol. 5, No. 1, pp. 89-94).
- Setiowati, M. 2005. Biologi *Fopius* sp. Parasitoid Lalat Buah *Bactrocera carambolae* (Diptera: Tephritidae). Skripsi. Jurusan Hama dan Penyakit Tumbuhan Fakultas Pertanian. Universitas Brawijaya. Malang. 41 him.
- Siwi, S.S., and Hidayat, P. 2004. Taksonomi dan Bioteknologi Lalat Buah Penting *Bactrocera* spp. (Diptera: Tephritidae). Laporan Kerjasama Balai Besar Penelitian dan Pengembangan Bioteknologi dan Sumberdaya Genetika Pertanian.
- Siwi, S.S. 2005. Eko-Biologi Hama Lalat Buah. Balai Besar Penelitian dan Pengembangan Bioteknologi dan Sumberdaya Genetika Pertanian Bogor.
- Siwi, S.S., Hidayat, P., & Suputa. 2006. Taksonomi dan Bioekologi Lalat Buah Penting di Indonesia (Diptera: Tephritidae). Laporan Kerjasama Balai Besar Penelitian dan Pengembangan Bioteknologi dan Sumberdaya Genetik Pertanian, Indonesia dan Departemen of Agriculture , Fisheries, and Forestry, Australia. Bogor

- Stacconi, M. V. R., N. Amiresmaeili, A. Biondi, C. Carli, S. Caruso, M. L. Dindo, S. Francati, A. Gottardello, A. Grassi, and D. Lupi. 2018. Host location and dispersal ability of the cosmopolitan parasitoid *Trichopria drosophilae* released to control the invasive spotted wing *Drosophila*. *Biol. Control* 117: 188–196.
- Stibick, J. N. L. 2004. Natural Enemies of True Fruit Flies (Tephritidae). Amerika Serikat: USDA.
- Stireman J.O. 2002. Host location and selection cues in a generalist tachinid parasitoid. *Entomologia Experimentalis et Applicata* 103:23–34.
- Subahar, T.S.S. 1999. Studi Parasitoid Lalat Buah (*Dacus*) sebagai Salah Satu Upaya dalam Pengendalian Hama Terpadu (PHT) Buah-Buahan. Laporan penelitian. Bandung: Institut Teknologi Bandung.
- Suheriyanto, D. 2008. Ekologi Serangga. UIN-Malang Press. Malang. Hal 80- 86.
- Sukri, A. and Prayitno, G.H. 2016. Potensi Penggunaan Parasitoid Dalam Pengendalian Lalat Buah *Bactrocera* Di Pulau Lombok. *JEMS: Jurnal Edukasi Matematika dan Sains*, 1(2), pp.48-53.
- Sulistiya, S. 2016. Pemakaian Larutan Methyl Eugenol dan Ekstrak Jambu Merah dalam Mengendalikan Lalat buah, *Agros*, 18(1), pp. 49–56.
- Sunarno. 2011. Ketertarikan serangga lalat buah terhadap berbagai papan perangkap berwarna sebagai salah satu teknik pengendalian. *Jurnal Agroforestri* 6 (2): 129-134.
- Suputa, Cahyani, A., Kustaryati, Issusulaningtyas, Railan, M., & Mardiasih, W. P. 2006. Pedoman Pengelolaan Lalat Buah. Direktorat Perlindungan Tanaman Hortikultura, Jakarta.
- Susanto, A., Supriyadi, Y., Tohidin, T., Susniahti, N. and Hafizh, V. 2017. Fluktuasi populasi lalat buah *Bactrocera* spp. (Diptera: Tephritidae) pada pertanaman cabai merah (*Capsicum annuum*) di Kabupaten Bandung, Jawa Barat. *Agrikultura*, 28(3).
- Tang, L.D., Ji, X.C., Han, Y., Fu, B.L. and Liu, K. 2015. Parasitism, emergence, and development of *Spalangia endius* (Hymenoptera: Pteromalidae) in pupae of different ages of *Bactrocera cucurbitae* (Diptera: Tephritidae). *Journal of Insect Science*, 15(1), p.15.
- Taylor, D.B., Moon, R., Gibson, G. and Szalanski, A. 2006. Genetic and morphological comparisons of new and old world populations of *Spalangia* species (Hymenoptera: Pteromalidae). *Annals of the Entomological Society of America*, 99(5), pp.799-808.
- Thaler JS. 1999. Jasmonate-inducible plant defences cause increased parasitism of herbivores. *Nature* 399:696–688.
- Tylianakis, J.M., Tscharntke, T., Lewis, O.T. 2007. Habitat modification alters the structure of tropical host–parasitoid food webs. *Nature* 445: 202–205.
- Untung, K. 1996. Pengantar pengelolaan hama terpadu. Gadjah Mada University Press. Yogyakarta. Hal 45-63.
- Van den Bosch, R. & F. H. Haramoto. 1953. Competition among parasites of the Oriental fruit fly. *Proc. Hawaii. Entomol. Soc.* 15: 201-206.

- Vargas, R., Stark, J. D., Prokopy, R. J., & Green, T. A. 1991. *Response of Oriental Fruit Fly (Diptera: Tephritidae) and Associated Parasitoids (Hymenoptera: Braconidae) to Different-Color Spheres. Journal of Economic Entomology*, 84(5), 1503–1507. doi:10.1093/jee/84.5.1503.
- Vargas, R.L., Leblanc, L., Putoa, R., & Eitam, A. 2007. Impact of Introduction of *Bactrocera dorsalis* (Diptera: Tephritidae) and Classical Biological Control Releases of *Fopius arisanus* (Hymenoptera: Braconidae) on Economically Important Fruit Flies in French Polynesia. *Economic Entomology*, 100(3): 670-679.
- Vargas, R.L., Mau, R.F., Jang, E.B., Faust, R.M., Wong, L., Koul, O., Cuperus, G., and Elliott, N. 2008. The Hawaii fruit fly areawide pest management programme. Dalam Koul, O., Cuperus, G. (eds.), *Areawide pest management: theory and implementation*, hal. 300–325. CABI Books: London, UK.
- Vargas, R.L., Leblanc, L., Harris, E.J., & Manoukis, N.C. 2012. Regional Suppression of *Bactrocera* Fruit Flies (Diptera: Tephritidae) in the Pacific through Biological Control and Prospects for Future Introductions into Other Areas of the World. *Insects*, 3: 727-742.
- Wahyudi, S. 2005. Studi Parasitasi Parasitoid Lalat Buah (*Bactrocera carambolae*) Drew & Hancock (Diptera: Tephritidae) pada Pertanaman Belimbing (*Averrhoa carambola* L.) di Kabupaten Blitar. Skripsi, Jurusan HPT Fakultas Pertanian Universitas Brawijaya, Malang. 42 him.
- Weems, H. V. Jr. and Heppner, J. B. 1999. Oriental fruit fly, *Bactrocera dorsalis* (Hendel) (Insecta: Diptera: Tephritidae). Florida Department of Agriculture and Consumer Services, Division of Plant Industry, and T.R. Fasulo, University of Florida. University of Florida Publication EENY- 083.
- Wharton, R. A. 1989. Classical biological control of fruit infesting Tephritidae. In: Robinson, A. S. and Hooper, G. H. S. (eds). *Fruit flies: their biology, natural enemies and control*. Elsevier Science, Amsterdam. World crop pests. Vol. 3B. 303-313.
- Wharton, R.A. 2007. The Wharton Lab: Keys: Parasitoids of Fruit-Infesting Tephritidae. <http://hymenoptera.tamu.edu/paroffit>.
- White, I. M. and Elson-Harris, M. M. 1992. *Fruit flies of economic significance: Their identification and bionomics*. CAB International, Wallingford, 601pp.
- Wiratama, M.D., Susila, I.W., Supartha, I.W. 2017. Kelimpahan Populasi Lalat Buah (*Bactrocera* spp.) dan Tingkat Parasitasi Parasitoid di Sentra Pertanaman Jeruk Provinsi Bali. Skripsi. Fakultas Pertanian Universitas Udayana, Denpasar.
- Ye, H. 2001. Distribution of the oriental fruit fly (Diptera: Tephritidae) in Yunnan Province. *Insect Science*. 8: 175-182.
- Ye, H., and Liu, J.H. 2005. Population dynamics of the oriental fruit fly, *Bactrocera dorsalis* (Diptera: Tephritidae) in the Kunming area, southwestern China. *Insect Science*, 12(5): 387-392.
- Ye, H., and Liu, J.H. 2007. Population dynamics of oriental fruit fly *Bactrocera dorsalis* (Diptera: Tephritidae) in Xishuangbanna, Yunnan Province, China. *Frontiers in Agriculture of China*, 1(1): 76-80.



UNIVERSITAS
GADJAH MADA

**KOMPOSISI DAN TINGKAT PARASITASI PARASITOID LALAT BUAH (DIPTERA: TEPHRITIDAE) PADA
AUGMENTARIUM DI**

LAHAN SALAK (*Salacca zalacca* (Gaertn.) Voss) KECAMATAN TURI, KABUPATEN SLEMAN

Fahmi Mega Narendra, Dr. Suputa, S.P., M.P.

Universitas Gadjah Mada, 2024 | Diunduh dari <http://etd.repository.ugm.ac.id/>

- Zamek, A.L., Spinner, L.E., Micallef, J.L., Gurr, G.M., & Reynold, O.L. 2012. Parasitoids of Queensland Fruit Fly *Bactrocera tryoni* in Australia and Prospects for Improved Biological Control. *Insects*, 3: 1056-1083.
- Zhang, Y.P., Li, D.S., Zhang, B.X., Chen, M.Y., Zhong, J., Song, Y. 2010. Functional response of *Spalangia endius* Walker to pupae of *Bactrocera dorsalis* (Hendel) and influence of temperature and relative humidity on longevity of adult *S. endius*. *Chin. J. Biol. Control*, 26, 385–390.
- Zheng, Y., Song, Z.W., Zhang, Y.P. and Li, D.S., 2021. Ability of *Spalangia endius* (Hymenoptera: Pteromalidae) to parasitize *Bactrocera dorsalis* (Diptera: Tephritidae) after switching hosts. *Insects*, 12(7), p.613.