

Appendix B

2021 Publications

For a complete list of publications from 2016-2022, see the W-5185 Temp Renewal Document

- Abram, P.K., Wang, X., Hueppelsheuser, T., Franklin, M.T., Daane, K.M., Lee, J.C., Lue, C.-H., Girod, P., Carrillo, J., Wong, W.H.L, Kula, R.R., Gates, M.W., Hogg, B.N., Moffat, C.E., Hoelmer, K.A., Sial, A.A. and Buffington, M.L. 2022. A coordinated sampling and identification methodology for larval parasitoids of spotted-wing drosophila. *Journal of Economic Entomology* (in press).
- Alred B, N. Haan, D. A. Landis and M. Szucs. 2021. Does the presence of the biological control agent, *Hypena opulenta* (Lepidoptera: Erebidae) on swallow-worts deter monarch oviposition? *Environmental Entomology*. doi.org/10.1093/ee/nvab121
- Alred B, RA Hufbauer and M. Szucs. 2022. Potential impact and phenology of the biological control agent, *Hypena opulenta* on *Vincetoxicum nigrum* in Michigan. *Biocontrol Science and Technology* doi.org/10.1080/09583157.2022.2040950
- Bordini, I.C., Naranjo, S.E., Fournier, A., Ellsworth, P.C. 2021. Novel insecticides and generalist predators support conservation biological control in cotton. *Biological Control* 154: 104502 (<https://doi.org/10.1016/j.biocontrol.2020.104502>)
- Braman, C.A., Lambert, A., Özsoy, Z, Hollstein, E, Sheehy, K, McKinnon, Moran, P.J., Gaskin, J. F, Goolsby, J.A., Dudley, T.L. 2021. Biology of an adventive population of the armored scale *Rhizaspidiotus donacis*, a biological control agent of *Arundo donax* in California. *Insects* 12, 588. doi: 10.3390/insects12070588
- Daane, K.M., Cooper, M.L., Mercer, N.H., Hogg, B.N., Yokota, G.Y., Haviland, D.R., Welter, S.C., Cave, F.E., Sial, A.A. and Boyd, E.A., 2021. Pheromone deployment strategies for mating disruption of a vineyard mealybug. *Journal of Economic Entomology* 114: 2439-2451.
- Daane, K.M., Wang, X.-G., Hogg, B.N. and Biondi, A. 2021. Potential host ranges of three Asian larval parasitoids evaluated for *Drosophila suzukii* biological control. *Journal of Pest Science* 94: 1171–1182.
- Emery, S., Jonsson, M., Ribiero, A., Silva, H., and Mills, N. 2021. High agricultural intensity at the landscape scale benefits pests, but low intensity practices at the local scale can mitigate these effects. *Agriculture, Ecosystems and Environment* 306: 107199
- Fleischer, S.J., Hutchison, W.D., Naranjo, S.E. 2021. Sustainable management of insect-resistant crops. pp. 112-125 in *Plant Biotechnology - Experience and Future Prospects*, 2nd Ed., A. Ricroch, S. Chopra, M. Kuntz (eds.), Springer, Dordrecht-Heidelberg-London-New York.

- Gaskin, JF, SB Endriss, C Fettig, RA Hufbauer, AP Norton, R Sforza. **2021**. One genotype dominates a facultatively outcrossing plant invasion. *Biological Invasions* DOI: 10.1007/s10530-021-02480-0
- Ghalehgolabbehbahani, A., C.F. Sullivan, A. Davari, B.L. Parker, A. Razavi & M. Skinner. 2022. Biological control of *Rhizoglyphus robini* using the entomopathogenic fungus, *Metarhizium brunneum* and predatory mite, *Strateiolaelaps scimitus* under laboratory conditions. *Experimental and Applied Acarology*. In press.
- Ghalehgolabbehbahani, A., M. Skinner, B.L. Parker, A. Razavi, P. Reese & A. Davari. 2020. A standardized method for rearing *Rhizoglyphus robini* (Astigmata: Acaridae). *J. Plant Dis. Protection*. doi.org/10.1007/s41348-020-00381-3
- Harms, N.E., Knight, I.A., Pratt, P.D., Reddy, A.M., Mukerjee, A., Gong, P., Coetzee, J., Raghu, S., Diaz, R. 2021. Climate mismatch between introduced biological control agents and their invasive host plants: Improving biological control of tropical weeds in temperate regions. *Insects* 12, 549. doi: 10.3390/insects12060549
- Heraty, J.M., Valle Rogers, D., Johnson, M.T., Ferreira, W.D., Baker, A.J., Bitume, E., Murray, E., Varone, L. 2021. New record in the Hawaiian Islands of *Orasema minutissima* (Hymenoptera: Eucharitidae), an ant-parasitic wasp and a potential biocontrol agent against the Little Fire Ant, *Wasmannia auropunctata* (Hymenoptera: Formicidae). *Bishop Museum Occasional Papers* 137: 7–18.
- Hogg, B.N., Cooper, M.L. and Daane, K.M. 2021. Areawide mating disruption for vine mealybug in California vineyards. *Crop Protection* 148: 105735.
- Hogg, B.N., Grettenberger, I.M., Borkent, C.J., Stokes, K., Zalom, F.G. and Pickett, C.H. 2022. Natural biological control of *Bagrada hilaris* by egg predators and parasitoids in north-central California. *Biological Control* 171: 104942.
- Hogg, B.N., Hougardy, E. and Talamas, E. 2021. Adventive *Gryon aetherium* Talamas (Hymenoptera, Scelionidae) associated with eggs of *Bagrada hilaris* (Burmeister) (Hemiptera, Pentatomidae) in the USA. *Journal of Hymenoptera Research* 87: 481-492.
- Hogg, B.N., Lee, J.C., Rogers, M.A., Worth, L., Nieto, D.J., Stahl, J.M. and Daane, K.M. 2022. Releases of the parasitoid *Pachycrepoideus vindemmiae* for augmentative biological control of spotted wing drosophila, *Drosophila suzukii*. *Biological Control* 168: 104865.
- Hopper, J.V., Pratt, P.D., Reddy, A.M., McCue, K.F., Rivas, S.O., Grosholz, E.D. 2021. Abiotic and biotic influences on the performance of two biological control agents, *Neochetina bruchi* and *N. eichhorniae*, in the Sacramento-San Joaquin River Delta, California (USA).. doi: 10.1016/j.biocontrol.2020.104495
- Hougardy, E. and Hogg, B.N. 2021. Host patch use and potential competitive interactions between two egg parasitoids from the family Scelionidae, candidate biological control

agents of *Bagrada hilaris* (Hemiptera: Pentatomidae). *Journal of Economic Entomology* 114: 611-619.

Irvin, N.A. and M.S. Hoddle. 2021. The effects of nectar, extrafloral nectar and hemipteran honeydew on the fitness of *Tamarixia radiata* (Hymenoptera: Eulophidae), a parasitoid of *Diaphorina citri*. *Biological Control* 163: 104753
<https://doi.org/10.1016/j.biocontrol.2021.104753>

Irvin, N.A., C. Pierce, and M.S. Hoddle. 2021. Evaluating the potential of flowering plants for enhancing predatory hoverflies (Syrphidae) for biological control of *Diaphorina citri* (Liviidae) in California. *Biological Control*. 157: 104574.
<https://doi.org/10.1016/j.biocontrol.2021.104574>

Jarrett BJM, M Szűcs. 2022. Traits across trophic levels interact to influence parasitoid establishment in biological control releases. *Ecology and Evolution*.
doi.org/10.1002/ece3.8654 (*Open access*)

Jarrett BJ*, S. Linder, PD Fanning, R. Isaacs and M. Szűcs. 2022. Experimental adaptation of native parasitoids to the invasive pest, *Drosophila suzukii*. *Biological Control*.
<https://doi.org/10.1016/j.biocontrol.2022.104843> (*Open access*)

Kahl, H. M., T. G. Mueller, B. N. Cass, X. Xi, E. Cluff, E. E. Grafton-Cardwell, and J. A. Rosenheim. 2021. Characterizing herbivory by European earwigs (Dermaptera: Forficulidae) on navel orange fruit with comparison to forktailed bush katydid (Orthoptera: Tettigoniidae). *Journal of Economic Entomology* 114: 1722-1732.

Kahl, H. M., T. G. Mueller, B. N. Cass, X. Xi, E. Cluff, E. E. Grafton-Cardwell, and J. A. Rosenheim. 2022. Herbivory by European earwigs (*Forficula auricularia*; Dermaptera: Forficulidae) on citrus species commonly cultivated in California. *Journal of Economic Entomology* 115:852-862.

Karimzadeh, J, RA Hufbauer, BC Kondratieff, JG Hardin, AP Norton, 2021. A survey of the parasitoid complex of Dalmatian toadflax weevils in Colorado. *Biological Control Science and Technology* <http://doi.org/10.1080/09583157.2021.2013441>

Khadka, A., Hodges, A. C., Leppla, N. C., and Tillman, P. G. 2021. *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) nymph survival and adult feeding preferences for crop plants in Florida. *Florida Entomologist*. 104:136-139.

LeBeck, L. M. and N. C. Leppla. 2021. Guidelines for Purchasing and Using Commercial Natural Enemies and Biopesticides in North America. IN849, UF/ IFAS EDIS.

Leppla, N. C. 2021. Concepts and Methods of Quality Assurance for Mass-Reared Parasitoids and Predators, Chapter 9. In Juan Morales Ramos, David Shapiro and Guadalupe Rojas (Eds), *Mass Production of Beneficial Organisms: Invertebrates and Entomopathogens*, 2nd Edition.

- Marini, F. Weyl, P.; Vidovic, B.; Petanovic, R.; Littlefield, J.; Simoni, S.; de Lillo, E.; Cristofaro, M.; Smith, L. 2021. Eriophyid Mites in Classical Biological Control of Weeds: Progress and Challenges. *Insect* 12: 513. 25 pp. <https://doi.org/10.3390/insects12060513>
- Marini, F., B. Vidović, S. Lonis, M. I. Wibawa, E. de Lillo, J. Kashefi, M. Cristofaro, L. Smith. 2021. Comparison of the performance of an eriophyid mite, *Aceria salsolae*, on nontarget plants in the laboratory and in the field. *Biological Control* 152: 104455. doi: 10.1016/j.biocontrol.2020.104455
- Marini, F., Weyl, P., Vidović, B., Petanović, R., Littlefield, J., Simoni, S., de Lillo, E., Cristofaro, M., Smith, L. 2021. Eriophyid mites in classical biological control of weeds: Progress and challenges. *Insects* 2021, 12, 513. <https://doi.org/10.3390/insects12060513>
- Meissle, M., Naranjo, S.E., Romeis, J. 2022. Database of non-target invertebrates recorded in field experiments of genetically engineered Bt maize and corresponding non-Bt maize. *BMC Research Notes*. <https://doi.org/10.1186/s13104-022-06021-3>
- Meissle, M., Naranjo, S.E., Romeis, J. 2022. Does Bt maize impact non-target arthropods: A global meta-analysis? *Environmental Evidence* <https://doi.org/10.1186/2047-2382-3-7>
- Mills, N. J. 2021. Abundance-suitability relationships for invasive species: *Epiphyas postvittana* as a case study. *Biological Invasions* 23: 2205-2220.
- Mills, N. J. 2021. Integrating pest management with biological control. In *Biological Control: Global Impacts, Challenges and Future Directions of Pest Management* (Ed PG Mason) pp. 556-572. CSIRO Publishing, Melbourne.
- Milosavljević, I., M.A. Vankosky, D.J.W. Morgan, C.D. Hoddle, R.E. Massie, and M.S. Hoddle. 2022. Post-release evaluation of *Diaphorencyrtus aligarhensis* (Hymenoptera: Encyrtidae) and *Tamarixia radiata* (Hymenoptera: Eulophidae) for biological control of *Diaphorina citri* (Hemiptera: Liviidae) in urban California, USA. *Insects* 12: 583
- Milosavljevic, I., Morgan, D.J.W., Massie, R.E., and Hoddle, M.S. 2021. Density dependent mortality, climate, and Argentine ants affect population dynamics of an invasive citrus pest, *Diaphorina citri*, and its specialist parasitoid, *Tamarixia radiata*, in Southern California, USA. *Biological Control* 159: 104627. <https://doi.org/10.1016/j.biocontrol.2021.104627>
- Moser, M., Burks, R. A., Ulmer, J. M., Heraty, J. M., van de Kamp, T., Krogmann, L. (2021). Taxonomic description and phylogenetic placement of two new species of *Spalangiopecta* (Hymenoptera: Pteromalidae: Ceinae) from Eocene Baltic amber. *Peer J*, 9, e10939. 27 pp.
- Naranjo, S.E. 2021. Effects of GE crops on non-target organisms. pp. 127-144 in *Plant Biotechnology - Experience and Future Prospects*, 2nd Ed., A. Riccroch, S. Chopra, M. Kuntz (eds.), Springer, Dordrecht-Heidelberg-London-New York.

- Park, I, Smith, L. 2021. Topical application of synthetic hormones terminated reproductive diapause of a univoltine weevil weed biological control agent. *Insects* 12, 834. <https://doi.org/10.3390/insects12090834>
- Penca, C., Goltz, N. C., Hodges, A. C., Leppla, N. C., Eger, J. E., and Smith, T. R. 2022. Use of pyriproxyfen to induce oogenesis in diapausing *Megacopta cribraria* (Heteroptera: Plataspidae), and evaluation of pyriproxyfen-induced eggs for rearing the parasitoid *Paratelenomus saccharalis* (Hymenoptera: Scelionidae). *Insects*. 13, 89. <https://doi.org/10.3390/insects13010089Insects>.
- Penca, C., Hodges, A. C., Leppla, N. C., and Cottrel, T. E. 2021. Analysis of the spatial distribution and development of sequential sampling plans for heteropter-an-associated fruit injury in Florida peaches. *Journal of Economic Entomology*. 114: 1823-1833.
- Perry, R.K., Heraty J.M. 2021. A revision of the tattooed wasps, *Zagrammosoma* (Ashmead), (Hymenoptera: Eulophidae) with descriptions of eight new species. *Zootaxa* 4916: 108 pp.
- Pickett, C.H., Borkent, C.J., Popescu, V., Lightle, D., Hogg, B. and Grettenberger, I. 2022. New insights into predation through imaging. *Biocontrol Science and Technology* 32: 196-222.
- Portman, S.L., Santa Cruz, K.E., Moran, P.J. 2021. Host plant water deficit stress impairs reproduction and development of the galling fly (*Parafreutreta regalis*), a biological control agent of Cape-ivy (*Delairea odorata*). *Biol. Cont.* 156, 104555. doi: 10.1016/j.biocontrol.2021.104555.
- Pratt, P.D., Moran, P.J., Pitcairn, M., Reddy, A.M., O'Brien, J. 2021. Biological control of invasive plants in California's Delta: Past, present, and future. *Journal of Aquatic Plant Management* 59s:55-66. <http://www.apms.org/delta-region-area-wide-aquatic-weed-project/>
- Roltsch, W. A., Bürgi, L. P., Tomic-Carruthers, N., Rugman-Jones, P. F., Stouthamer, R., and Mills, N. J. 2021. Mortality of light brown apple moth egg masses in coastal California: impact of resident *Trichogramma* parasitism and predation. *Biological Control* 152: 104465.
- Simaz O* and M. Szűcs. 2021. Differential effects of heat waves on an invasive herbivore and its parasitoid. *Ecosphere* doi.org/10.1002/ecs2.3796 (*Open access*)
- Smith, L, Woods, D.M, Wibawa, M.I., Popescu, V., Moran, P.J., Villegas, B., Pitcairn, M.J., Hon, C. 2021. Release and establishment of the weevil *Mecinus janthiniformis* for biological control of Dalmatian toadflax in southern California. *Biol. Cont.* 161, 104633. doi: 10.1016/j.biocontrol.2021.104633
- Smith, L., Park, I. 2021. Conditions to terminate reproductive diapause of a univoltine insect: *Ceratapion basicorne* (Coleoptera: Apionidae), a biological control agent of yellow starthistle. *Environ. Entomol.* <https://doi.org/10.1093/ee/nvab110>

- Stahlke AR, Bitume EV, Ozsoy ZA, Bean DW, Veillet A, Clark MI, Clark EI, Moran PJ, Hufbauer R, Hohenlohe PA. 2022. Hybridization and range expansion in tamarisk beetles (*Diorhabda* spp.) introduced to North America for classical biological control. *Evol. Appl.* 15: 60-77. doi: 10.1111/eva.13325
- Stutz, S., McClay, A., De Clerck-Floate, R. and Littlefield, J. 2021. Petition for field release of *Dichrorampha aeratana* (Pierce and Metcalfe, 1915) (Lepidoptera, Tortricidae) as a biological control agent for oxeye daisy, *Leucanthemum vulgare* Lam., in the USA and Canada. TAG petition submitted to USDA-APHIS-PPQ.
- Szűcs M, E. I. Clark, U Schaffner, J.L. Littlefield, C. Hoover and RA Hufbauer. 2021. The effects of intraspecific hybridization on host specificity of a weed biocontrol agent. *Biological Control.* 157: 104585 doi.org/10.1016/j.biocontrol.2021.104585
- Talamas, E.J., Bremer, J.S., Moore, M.R., Bon, M-C., Lahey, Z., Roberts, C.G., Combee, L.A., McGathay, N., Timokhov, A.V., Hougardy, E. and Hogg, B.N. 2021. A maximalist approach to the systematics of a biological control agent: *Gryon aetherium* Talamas, sp. n. (Hymenoptera, Scelionidae) *Journal of Hymenoptera Research* 87: 323-480.
- Wang, X., Hogg, B.N., Biondi, A., Daane, K.M. 2021. Plasticity of body growth and development in two cosmopolitan pupal parasitoids. *Biological Control* 163: 104738.
- Wang, X., Ramualde, N., Aparicio, E.M., Maspero, M., Duan, J.J., and Smith. L. 2021. Optimal conditions for diapause survival of *Aprostocetus fukutai*, an egg parasitoid for biological control of *Anoplophora chinensis*. *Insects.* ARIS 384653.
<https://doi.org/10.3390/insects12060535>
- Wang, X., Ramualde, N., Desurmont, G.A., Smith, L., Gundersen-Rindal, D.E., Grodowitz, M.J. 2021. Reproductive traits of the egg parasitoid *Aprostocetus fukutai*, a promising biological control agent for invasive citrus longhorned beetle *Anoplophora chinensis*. *BioControl.* doi: 10.1007/s10526-021-10118-2
- Wilson, H., Hogg, B.N., Blaisdell, K.G., Andersen, J.C., Yazdani, A.S., Billings, A.C., Ooi, K.L.M., Soltani, N., Almeida, R., Cooper, M.L. and Al Rwahnih, M. 2022. Survey of vineyard insects and plants to identify potential insect vectors and noncrop reservoirs of grapevine red blotch Virus. *PhytoFrontiers* 2: 66-73.