

Current Research at the European Biological Control Laboratory Montferrier-sur-Lez, France

USDA Agricultural Research Service (Director: Lincoln Smith, LSmith@ars-ebcl.org)



Arthropod Pests



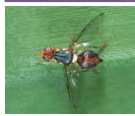
Asian long-horned beetles (*Anoplophora* spp.)
— exploration in East Asia [Franck Hérard]



bagrada bug (*Bagrada hilaris*)
— exploration in Asia & S. Africa [René Sforza]



brown marmorated stink bug (*Halyomorpha halys*)
— exploration for *Trissolcus* spp. [Marie-Claude Bon]



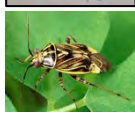
olive fruit fly (*Bactrocera oleae*)
— rearing parasitoids (*Psytalia* spp.) [Link Smith]
— testing pathogens [Mélanie Tannieres]



olive psyllid (*Euphyllura olivina*)
— larval parasitoids [Gaylord Desurmont]



spotted-wing drosophila (*Drosophila suzukii*)
— [Kim Hoelmer]



tarnished plant bugs (*Lygus* spp.)
— exploration for larval parasitoids *Peristenus* spp.,
egg parasitoids *Anaphes* spp. [Marie-Claude Bon]



viburnum leaf beetle (*Pyrrhalta viburni*)
— exploration for agents [Gaylord Desurmont]

Weeds



African wire grass (*Ventenata dubia*)
— exploration in Europe [René Sforza]



French broom (*Genista monspessulana*)
— testing *Lepidapion argentatum* [René Sforza]



giant reed (*Arundo donax*)
— collecting agents [Javid Kashefi]



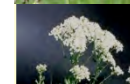
medusahead (*Taeniatherum caput-medusae*)
— exploration in Europe [René Sforza]



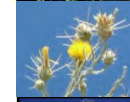
Sahara mustard (*Brassica tournefortii*)
— exploration [René Sforza]



swallow-worts (*Vincetoxicum* spp.)
— exploration in Europe [René Sforza]



white top (*Lepidium draba*) — genetic studies of
Ceutorhynchus assimilis [Marie-Claude Bon]



yellow starthistle (*Centaurea solstitialis*)
— exploration in west Europe [Link Smith]



Russian thistle (*Salsola tragus*)
— exploration & evaluation of agents [L. Smith]

Disease Vectors



Cattle fever tick (*Rhipicephalus annulatus*) — exploration for natural enemies in Balkans [Javid Kashefi]



Integrated control of vectors in Greece [Alexandra Chaskopoulou]:

Mosquitoes: (West Nile Virus, Chikungunya and

Dengue) — *Aedes*, *Anopheles*, *Culex* spp.

Sand flies: (Leishmaniasis) — *Phlebotomus* spp.



Recent Publications

- Berner D. K., Lagopodi A. L., **Kashefi** J., Mukhina Z., Kolomiets T., Pankratova L., Kassanelly D., Cavin C., Smallwood E. 2014. [Field assessment, in Greece and Russia, of the facultative saprophytic fungus, *Colletotrichum salsolae*, for biological control of Russian thistle \(*Salsola tragus*\)](#). *Biological Control* 76, 114-123
- Bon, M.**, Hoelmer, K.A., Pickett, C.H., Kirk, A., He, Y., Mahmood, R., Daane, K.M. 2015. [Populations of *Bactrocera oleae* \(Diptera: Tephritidae\) and its parasitoids in Himalayan Asia](#). *Annals of the Entomological Society of America* 109:81-91
- Brabbs, T. D., Collins, F. **Hérard**, M., Maspero, D. Eyre. 2015. [Prospects for the use of biological control agents against *Anoplophora* in Europe](#). *Pest Management Science* 71(1): 7-14.
- Cameron, M., Acosta-Serrano, A., Bern, C., Boelaert, M., Den Boer, M., Chapman, L., **Chaskopoulou, A.**, Coleman, M., Croft, S., Courtney, O. et al. 2016. [Understanding the transmission dynamics of *Leishmania donovani* to provide robust evidence for interventions to eliminate visceral leishmaniasis in Bihar, India](#). *Parasites & Vectors* 9:25
- Chaskopoulou A.**, Giantis I.A., Demir S., **Bon M.C.** 2016. [Species composition, activity patterns and blood meal analysis of sand fly populations \(Diptera: Psychodidae\) in the metropolitan region of Thessaloniki, an endemic focus of canine leishmaniasis](#). *Acta Tropica* 158:170-176.
- Chaskopoulou A.**, Thrasyvoulou A., Goras G., Tananaki C., Latham M. D., Kashefi J., Pereira R.M., Koehler P.G. 2014. [Nontarget effects of aerial mosquito adulticiding with water-based unsynergized pyrethroids on honey bees and other beneficial insects in an agricultural ecosystem of north Greece](#). *Journal of Medical Entomology* 51(3):720-724.
- Coutinot, D.** 2014. [International, European Union and French Disposals: legal rules that apply to all](#). Conference of the Entomological Society of France – Entomology in France: its public utility. Paris, November 15-16, 2013. *Mémoires de la SEF* n°9 105-111.
- De Biase, A., Colonelli, E., Belvedere, S., La Marca, A., Cristofaro, M., **Smith, L.** 2016. [Genetic and morphological studies of *Trichosirocalus* species introduced to North America, Australia and New Zealand for the biological control of thistles](#). *Bulletin of Entomological Research* 106(1): 99-113.
- Deletre, E., Schatz, B., Bourguet, D., Chandre, F., **Williams III, L.H.**, Ratnadass, A., Martin, T. 2016. [Prospects for repellent in pest control: current developments and future challenges](#). *Chemoecology* 26:1-16.
- Giantis I.A., Chaskopoulou A., **Bon M.C.** 2016. [Mild-Vectolysis: A Nondestructive DNA Extraction Method for Vouchering Sand Flies and Mosquitoes](#). *Journal of Medical Entomology* 53(3):692-695.
- Kim, M-S., Lee, H-L., Ku, D-S., **Hérard, F.**, Gould, J.R., Williams, D.W., Kim, I-K. Hong, K-J. 2016. [Discovery of *Spathius ibarakius* Belokobylskij et Maeto \(Hymenoptera: Braconidae\) as a Larval Ectoparasitoid of Citrus Longhorned Beetle in Korea](#). *Korean J. Appl. Entomol.* 55(3): 285-291.
- Hongsheng, P., Yanhui, L., Chunli, X., Huihui, G., Xiaoming, C., Xiaoling, S., Yongjun, Z., **Williams, L.**, Wyckhuys, K.A., Kongming, W. 2015. [Volatile fragrances associated with flowers mediate the host plant alternation of a polyphagous mirid bug](#). *Scientific Reports* 14805; doi: 10.1038/srep14805.
- Jacquet S., Garros C., Lombaert E., Walton C., Restrepo J., Allene X., Baldet T., Cetre-Sossah C., **Chaskopoulou A.**, et al. 2015. [Colonization of the Mediterranean basin by the vector biting midge species *Culicoides imicola*: an old story](#). *Molecular Ecology* 24(22):5707-5725.
- Lesieur, V., Jeanneau, M., Martin, J., **Bon, M.** 2016. [Development and characterization of 11 microsatellite markers in the root-gall-forming weevil, *Ceutorhynchus assimilis* \(Coleoptera: Curculionidae\)](#). *Applied Entomology and Zoology* 51:495–500.
- Kleist, A., A.M. Herrera-Reddy, R. **Sforza** and M. Jasienuk. 2014. [Inferring the complex origins of horticultural invasives: French broom in California](#). *Biological Invasions* 16: 887–901.
- Roy, L., **Bon, M.C.**, Cesarini, C., Serin, J. and Bonato, O., 2016. [Pinpointing the level of isolation between two cryptic species sharing the same microhabitat: a case study with a scarabaeid species complex](#). *Zoologica Scripta* 45(4):407-420.
- Saadat, D., Seraj, A., Goldansaz, S., **Williams III, L.H.** 2016. [Factors affecting reproductive success and life history parameters of *Bracon hebetor* Say \(Hymenoptera: Braconidae\) from three host-associated populations](#). *Biological Control* 96: 86-92.
- Suckling, M. and R.F.H. **Sforza**. 2014. [What Magnitude are Non-Target Impacts from Weed Biocontrol?](#) *PLoS ONE* 9(1): 1-12.
- Uludag, A., Gbehounou, G., Kashefi, J., Bouhache, M., **Bon, M.**, Bell, C., Lagopodi, A.L. 2016. [Review of the current situation for *Solanum elaeagnifolium* in the Mediterranean Basin](#). *European Plant Protection Organization Bulletin* 46:139-147.
- Von Virag, A., **Bon, M.**, Closca, C., Diaconu, A., Haye, T., Weiss, R., Muller-Scharer, H., Hinz, H. 2016. [Phenology and temperature-dependent development of *Ceutorhynchus assimilis*, a potential biological control agent for *Lepidium draba*](#). *Journal of Applied Entomology* DOI:10.1111/jen.12322.

EBCL Research activities include:

foreign exploration, lab rearing techniques, shipping agents to cooperators, molecular genetic characterization, evaluation of host specificity and potential efficacy in quarantine and field.

Collaborators include:

State Depts of Agriculture, Grower groups, ARS labs in USA, Universities, BLM, Dept. of Defense, etc., and **Foreign scientists** in France, Italy, Spain, Bulgaria, Greece, Russia, and Turkey.