

## *Dr. Francesca Scolari – Publications*

---

### PUBLICATIONS ON PEER-REVIEWED INTERNATIONAL JOURNALS

- Sierras N, Marin C, Botta A, Tait G, Merli D, Carlin S, Malacrida AR, Gasperi G, Anfora G, **Scolari F\***. Electrophysiological responses of the Mediterranean fruit fly, *Ceratitis capitata*, to the Cera trap® lure: exploring released antennally-active compounds. *J Chem Ecol.* 47(3):265-279. \*corresponding author. <https://pubmed.ncbi.nlm.nih.gov/33656626/>
- **Scolari F**, Sandionigi A, Carlassara M, Bruno A, Casiraghi M, Bonizzoni M. Exploring changes in the microbiota of *Aedes albopictus*: comparison among breeding site water, larvae and adults. *Front. Microbiol.* **2021**; 12:624170. <https://pubmed.ncbi.nlm.nih.gov/33584626/>
- Carraretto D, Aketarawong N, Di Cosimo A, Manni M, **Scolari F**, Valerio F, Malacrida AR, Gomulski LM, Gasperi G. Transcribed sex-specific markers on the Y chromosome of the Oriental fruit fly, *Bactrocera dorsalis*. *BMC Genet.* **2020**; 21(Suppl 2):125. <https://pubmed.ncbi.nlm.nih.gov/33339494/>
- **Scolari F**, Casiraghi M, Bonizzoni M. *Aedes* spp. and their microbiota. *Front Microbiol.* **2019**; 10:2036. <https://pubmed.ncbi.nlm.nih.gov/31551973/>
- Meccariello A, Salvemini M, Primo P, Hall B, Koskinioti P, Dalíková M, Gravina A, Gucciardino MA, Forlenza F, Gregoriou ME, Ippolito D, Monti SM, Petrella V, Perrotta MM, Schmeing S, Ruggiero A, **Scolari F**, Giordano E, Tsoumani KT, Marec F, Windbichler N, Arunkumar KP, Bourtzis K, Mathiopoulos KD, Ragoussis J, Vitagliano L, Tu Z, Papathanos PA, Robinson MD, Saccone G. Maleness-on-the-Y (MoY) orchestrates male sex determination in major agricultural fruit fly pests. *Science.* **2019**; 365(6460):1457-1460. <https://pubmed.ncbi.nlm.nih.gov/31467189/>
- Attardo GM, Abd-Alla AMM, Acosta-Serrano A, Allen JE, Bateta R, Benoit JB, Bourtzis K, Caers J, Caljon G, Christensen MB, Farrow DW, Friedrich M, Hua-Van A, Jennings EC, Larkin DM, Lawson D, Lehane MJ, Lenis VP, Lowy-Gallego E, Macharia RW, Malacrida AR, Marco HG, Masiga D, Maslen GL, Matetovici I, Meisel RP, Meki I, Michalkova V, Miller WJ, Minx P, Mireji PO, Ometto L, Parker AG, Rio R, Rose C, Rosendale AJ, Rota-Stabelli O, Savini G, Schoofs L, **Scolari F**, Swain MT, Takáč P, Tomlinson C, Tsiamis G, Van Den Abbeele J, Vigneron A, Wang J, Warren WC, Waterhouse RM, Weirauch MT, Weiss BL, Wilson RK, Zhao X, Aksoy S. Comparative genomic analysis of six *Glossina* genomes, vectors of African trypanosomes. *Genome Biol.* **2019**; 20(1):187. <https://pubmed.ncbi.nlm.nih.gov/31477173/>
- Pischedda E, **Scolari F**, Valerio F, Carballar-Lejarazu R, Catapano PL, Waterhouse RM, Bonizzoni M. Insights into an unexplored component of the mosquito repeatome: distribution and variability of viral sequences integrated into the genome of the arboviral vector *Aedes albopictus*. *Front. Genet.* **2019**. 10,93. <https://pubmed.ncbi.nlm.nih.gov/30809249/>
- Gomulski LM, Mariconti M, Di Cosimo A, **Scolari F**, Manni M, Savini G, Malacrida AR, Gasperi G. The *Nix* locus on the male-specific homologue of chromosome 1 in *Aedes albopictus* is a strong candidate for a male-determining factor. *Parasit Vectors.* **2018**; 11(Suppl 2):647. <https://pubmed.ncbi.nlm.nih.gov/30583734/>
- Falchetto M, Ciossani G, Scolari F, Di Cosimo A, Nenci S, Field LM, Mattevi A, Zhou JJ, Gasperi G, Forneris F. Structural and biochemical evaluation of *Ceratitis capitata* odorant-binding protein 22 affinity for odorants involved in intersex communication. *Insect Mol Biol.* **2019**. 28(3):431-443. <https://pubmed.ncbi.nlm.nih.gov/30548711/>
- **Scolari F**, Attardo GM, Aksoy E, Savini G, Abd-Alla A, Aksoy S, Malacrida AR. Symbiotic microbes affect the expression of male reproductive genes in *Glossina m. morsitans*. Accettato

per la pubblicazione su BMC Microbiol. 2018. 18 (Suppl 1):169.  
<https://pubmed.ncbi.nlm.nih.gov/30470198/>

- Merli D, Mannucci B, Bassetti F, Corana F, Falchetto M, Malacrida AR, Gasperi G, **Scolari F\***. Larval diet affects male pheromone blend in a laboratory strain of the medfly, *Ceratitis capitata* (Diptera: Tephritidae). J Chem Ecol. 2018. 44(4):339-353. \*corresponding author. <https://pubmed.ncbi.nlm.nih.gov/29504084/>
- Bing XL, Attardo GM, Vigneron A, Aksoy E, **Scolari F**, Malacrida A, Weiss BL, Aksoy S. Unravelling the relationship between the Tsetse fly and its obligate symbiont *Wigglesworthia*: Transcriptomic and metabolomic landscapes reveals highly integrated physiological networks. Proc R Soc Lond [Biol] 2017. 284(1857). <https://pubmed.ncbi.nlm.nih.gov/28659447/>
- Manni M, Guglielmino CR, **Scolari F**, Vega-Rúa A, Failloux A-B, Somboon P, Lisa A, Savini G, Bonizzoni M, Gomulski LM, Malacrida AR, Gasperi G. Genetic evidence for a worldwide chaotic dispersion pattern of the arbovirus vector, *Aedes albopictus*. Plos Negl Trop Dis 2017. 11(1): e0005332. <https://pubmed.ncbi.nlm.nih.gov/28135274/>
- Jacob V, **Scolari F**, Delatte H, Gasperi G, Jacquin-Joly E, Malacrida AR, Duyck P-R. Current source density mapping of antennal sensory selectivity reveals conserved olfactory systems between tephritids and *Drosophila*. Sci Rep. 2017. 7, 15304. <https://pubmed.ncbi.nlm.nih.gov/29127313/>
- **Scolari F**, Benoit JB, Michalkova V, Aksoy E, Takac P, Abd-Alla AM, Malacrida AR, Aksoy S, Attardo GM. The Spermatophore in *Glossina morsitans morsitans*: insights into male contributions to reproduction. Sci Rep. 2016. 5;6:20334. <https://pubmed.ncbi.nlm.nih.gov/26847001/>
- Gabrieli P & **Scolari F\***. Delivery of nucleic acids through embryo microinjection in the worldwide agricultural pest insect, *Ceratitis capitata*. J Vis Exp. 2016. 116,e54528. \*corresponding author. <https://pubmed.ncbi.nlm.nih.gov/27768087/>
- Gabrieli P, **Scolari F**, Di Cosimo A, Savini G, Fumagalli M, Gomulski LM, Malacrida AR, Gasperi G. Sperm-less males modulate female behaviour in *Ceratitis capitata* (Diptera: Tephritidae). Insect Biochem Mol Biol. 2016. 79:13-26. <https://pubmed.ncbi.nlm.nih.gov/27720923/>
- Papanicolaou A, Schetelig MF, Arensburger P, Atkinson PW, Benoit JB, Bourtzis K, Castañera P, Cavanaugh JP, Chao H, Childers C, Curril I, Dinh H, Doddapaneni H, Dolan A, Dugan S, Friedrich M, Gasperi G, Geib S, Georgakilas G, Gibbs RA, Giers SD, Gomulski LM, González-Guzmán M, Guillem-Amat A, Han Y, Hatzigeorgiou AG, Hernández-Crespo P, Hughes DS, Jones JW, Karagkouni D, Koskinioti P, Lee SL, Malacrida AR, Manni M, Mathiopoulos K, Meccariello A, Murali SC, Murphy TD, Muzny DM, Oberhofer G, Ortego F, Paraskevopoulou MD, Poelchau M, Qu J, Reczko M, Robertson HM, Rosendale AJ, Rosselot AE, Saccone G, Salvemini M, Savini G, Schreiner P, **Scolari F**, Siciliano P, Sim SB, Tsiamis G, Ureña E, Vlachos IS, Werren JH, Wimmer EA, Worley KC, Zacharopoulou A, Richards S, Handler AM. The whole genome sequence of the Mediterranean fruit fly, *Ceratitis capitata* (Wiedemann), reveals insights into the biology and adaptive evolution of a highly invasive pest species. Genome Biol. 2016. 17(1):192. <https://pubmed.ncbi.nlm.nih.gov/27659211/>
- Dritsou V, Topalis P, Windbichler N, Simoni A, Hall A, Lawson D, Hinsley M, Hughes D, Napolioni V, Crucianelli F, Deligianni E, Gasperi G, Gomulski LM, Savini G, Manni M, **Scolari F**, Malacrida AR, Arcà B, Ribeiro JM, Lombardo F, Saccone G, Salvemini M, Moretti R, Aprea G, Calvitti M, Picciolini M, Papathanos PA, Spaccapelo R, Favia G, Crisanti A, Louis C. A draft genome sequence of an invasive mosquito: an Italian *Aedes albopictus*. Pathog Glob Health. 2015. 109(5):207-220. <https://pubmed.ncbi.nlm.nih.gov/26369436/>
- Manni M, Gomulski LM, Aketarawong N, Tait G, **Scolari F**, Somboon P, Guglielmino CR, Malacrida AR, Gasperi G. Molecular markers for analyses of intraspecific genetic diversity in the Asian Tiger mosquito, *Aedes albopictus*. Parasit Vectors. 2015. 28;8:188. <https://pubmed.ncbi.nlm.nih.gov/25890257/>

- Manni M, Lima KM, Guglielmino CR, Lanzavecchia SB, Juri M, Vera T, Cladera J, **Scolari F**, Gomulski L, Bonizzoni M, Gasperi G, Silva JG, Malacrida AR. Relevant genetic differentiation among Brazilian populations of *Anastrepha fraterculus* (Diptera, Tephritidae). Zookeys. **2015**. 540:157-173. <https://pubmed.ncbi.nlm.nih.gov/26798258/>
- Aketarawong N, Guglielmino CR, Karam N, Falchetto M, Manni M, **Scolari F**, Gomulski LM, Gasperi G, Malacrida AR. The oriental fruitfly *Bactrocera dorsalis* s.s. in East Asia: disentangling the different forces promoting the invasion and shaping the genetic make-up of populations. Genetica. **2014**. 142(3):201-213. <https://pubmed.ncbi.nlm.nih.gov/24816716/>
- Breisfoard C, Tsiamis G, Falchetto M, Gomulski LM, Telleria E, Alam U, Doudoumis V, **Scolari F**, Benoit JB, Swain M, Takac P, Malacrida AR, Bourtzis K, Aksoy S. Presence of extensive *Wolbachia* symbiont insertions discovered in the genome of its host *Glossina morsitans morsitans*. PLoS Negl Trop Dis. **2014**. 8(4):e2728. <https://pubmed.ncbi.nlm.nih.gov/24763283/>
- Gilles JR, Schetelig MF, **Scolari F**, Marec F, Capurro ML, Franz G, Bourtzis K. Towards mosquito sterile insect technique programmes: exploring genetic, molecular, mechanical and behavioural methods of sex separation in mosquitoes. Acta Trop. **2014**. 132 Suppl:S178-87. <https://pubmed.ncbi.nlm.nih.gov/23994521/>
- International *Glossina* Genome Initiative. Genome sequence of the tsetse fly (*Glossina morsitans*): vector of African trypanosomiasis. Science. **2014**. 344(6182):380-386. <https://pubmed.ncbi.nlm.nih.gov/24763584/>
- **Scolari F**, Gomulski LM, Gabrieli P, Manni M, Savini G, Gasperi G, Malacrida AR. How functional genomics will impact fruit fly pest control: the example of the Mediterranean fruit fly, *Ceratitis capitata*. BMC Genetics. **2014**. 15 Suppl 2:S11. <https://pubmed.ncbi.nlm.nih.gov/25471105/>
- **Scolari F**, Yuval B, Gomulski LM, Schetelig MF, Gabrieli P, Bassetti F, Wimmer EA, Malacrida AR, Gasperi G. Polyandry in the medfly - shifts in paternity mediated by sperm stratification and mixing. BMC Genet. **2014**. 15 Suppl 2:S10. <https://pubmed.ncbi.nlm.nih.gov/25470981/>
- Siciliano P, He XL, Woodcock C, Pickett JA, Field LM, Birkett MA, Kalinova B, Gomulski LM, **Scolari F**, Gasperi G, Malacrida AR, Zhou JJ. Identification of pheromone components and their binding affinity to the odorant binding protein CcapOBP83a-2 of the Mediterranean fruit fly, *Ceratitis capitata*. Insect Biochem Mol Biol. **2014**. 48:51-62. <https://pubmed.ncbi.nlm.nih.gov/24607850/>
- Siciliano P, **Scolari F**, Gomulski LM, Falchetto M, Manni M, Gabrieli P, Field LM, Zhou JJ, Gasperi G, Malacrida AR. Sniffing out chemosensory genes from the Mediterranean fruit fly, *Ceratitis capitata*. PLoS One. **2014**. 9(1):e85523. <https://pubmed.ncbi.nlm.nih.gov/24416419/>
- Gomulski LM, Dimopoulos G, Xi Z, **Scolari F**, Gabrieli P, Siciliano P, Clarke AR, Malacrida AR, Gasperi G. Transcriptome profiling of sexual maturation and mating in the Mediterranean fruit fly, *Ceratitis capitata*. PLoS One. **2012**. 7(1):e30857. <https://pubmed.ncbi.nlm.nih.gov/22303464/>
- **Scolari F**, Gomulski LM, Ribeiro JM, Siciliano P, Meraldí A, Falchetto M, Bonomi A, Manni M, Gabrieli P, Malovini A, Bellazzi R, Aksoy S, Gasperi G, Malacrida AR. Transcriptional profiles of mating-responsive genes from testes and male accessory glands of the Mediterranean fruit fly, *Ceratitis capitata*. PLoS One. **2012**. 7(10):e46812. <https://pubmed.ncbi.nlm.nih.gov/23071645/>
- Bonomi A, Bassetti F, Gabrieli P, Beadell J, Falchetto M, **Scolari F**, Gomulski LM, Regazzini E, Ouma JO, Caccone A, Okedi LM, Guglielmino CR, Aksoy S, Malacrida AR. Polyandry is a common event in wild populations of the tsetse fly *Glossina fuscipes fuscipes* and may impact population reduction measures. PLoS Negl Trop Dis. **2011**. 5(6):e1190. <https://pubmed.ncbi.nlm.nih.gov/21666797/>
- Gabrieli P, Gomulski LM, Bonomi A, Siciliano P, **Scolari F**, Franz G, Jessup A, Malacrida AR, Gasperi G. Interchromosomal duplications on the *Bactrocera oleae* Y chromosome imply a

distinct evolutionary origin of the sex chromosomes compared to *Drosophila*. PLoS One. **2011**. 6(3):e17747. <https://pubmed.ncbi.nlm.nih.gov/21408187/>

- **Scolari F**, Siciliano P, Gabrieli P, Gomulski LM, Bonomi A, Gasperi G, Malacrida AR. Safe and fit genetically modified insects for pest control: from lab to field applications. Genetica. **2011**. 139(1):41-52. <https://pubmed.ncbi.nlm.nih.gov/20725766/>
- Bertin S\*, **Scolari F\***, Guglielmino CR, Bonizzoni M, Bonomi A, Marchini D, Gomulski LM, Gasperi G, Malacrida AR, Matessi C. Sperm storage and use in polyandrous females of the globally invasive fruitfly, *Ceratitis capitata*. J Insect Physiol. **2010**. 56(11):1542-51.\* **equal contribution**. <https://pubmed.ncbi.nlm.nih.gov/20466005/>
- Gabrieli P, Falaguerra A, Siciliano P, Gomulski LM, **Scolari F**, Zacharopoulou A, Franz G, Malacrida AR, Gasperi G. Sex and the single embryo: early development in the Mediterranean fruit fly, *Ceratitis capitata*. BMC Dev Biol. **2010**. 10:12. <https://pubmed.ncbi.nlm.nih.gov/20102629/>
- Khamis FM, Karam N, Ekesi S, DE Meyer M, Bonomi A, Gomulski LM, **Scolari F**, Gabrieli P, Siciliano P, Masiga D, Kenya EU, Gasperi G, Malacrida AR, Guglielmino CR. Uncovering the tracks of a recent and rapid invasion: the case of the fruit fly pest *Bactrocera invadens* (Diptera: Tephritidae) in Africa. Mol Ecol. **2009**. 18(23):4798-4810. <https://pubmed.ncbi.nlm.nih.gov/19821903/>
- Schetelig MF\*, **Scolari F\***, Handler AM, Kittelmann S, Gasperi G, Wimmer EA. Site-specific recombination for the modification of transgenic strains of the Mediterranean fruit fly *Ceratitis capitata*. Proc Natl Acad Sci U S A. **2009**. 106(43):18171-6. \***equal contribution**. <https://pubmed.ncbi.nlm.nih.gov/19828439/>
- **Scolari F**, Schetelig M F, Gabrieli P, Siciliano P, Gomulski L M, Karam N, Wimmer E A, Malacrida A R & Gasperi. Insect transgenesis applied to tephritid pest control. J Appl Entomol, **2008**. 132: 820-831. <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1439-0418.2008.01347.x>
- **Scolari F**, Schetelig MF, Bertin S, Malacrida AR, Gasperi G, Wimmer EA. Fluorescent sperm marking to improve the fight against the pest insect *Ceratitis capitata* (Wiedemann; Diptera: Tephritidae). N Biotechnol. **2008**. 25(1):76-84. <https://pubmed.ncbi.nlm.nih.gov/18504022/>

## PUBLICATIONS ON BOOKS AND PROCEEDINGS

- Attardo GM, **Scolari F**, Malacrida AR (**2020**). Bacterial Symbionts of Tsetse Flies: Relationships and Functional Interactions between Tsetse and their Symbionts. In 'Symbiosis: Cellular, Molecular, Medical and Evolutionary Aspects'. Editor: Kloc M. Springer Nature Switzerland AG. *Results Probl Cell Differ*. 69:497-536. doi: 10.1007/978-3-030-51849-3\_19.
- Waterhouse RM, **IWAA Participants**, Chen X, Bonizzoni M, Gasperi G (**2017**) The third International Workshop on *Aedes albopictus*: building scientific alliances in the fight against the globally invasive Asian tiger mosquito, Pathogens and Global Health, 111:4, 161-165, ISSN: 2047-7724. DOI: 10.1080/20477724.2017.1333560.
- Gasperi G, **Scolari F**. Manipolazione e soppressione degli insetti dannosi (**2014**). In F. Pennacchio (Ed.) 'Gli insetti e il loro controllo'. Pag. 693-702. Liguori Editore. 752 Pagine. ISBN: 978-88-207-5351-1.
- Malacrida AR, **Scolari F**, Falchetto M, Aksoy S. Tsetse flies (Diptera) (**2014**). In Igor V. Sharakhov (Ed.) 'Protocols for cytogenetic mapping of arthropod genomes'. Pag. 79-91. CRC Press. 526 Pagine. ISBN 9781466598157.
- Schetelig MF, **Scolari F**, Handler AM, Gasperi G & Wimmer EA (**2008**) New genetic tools for improving SIT in *Ceratitis capitata*: embryonic lethality and sperm marking. In proceedings of the 7<sup>th</sup> International Symposium on Fruit Flies of Economic Importance (10 - 15 September,

Salvador de Bahia, Brazil), Malavasi (ed), ADAB - Agencia de Defesa Agropecuaria da Bahia, Salvador, Bahia, Brazil, 1-19.

- **Scolari F**, Schetelig MF, Bertin S, Gasperi G, Wimmer E, Malacrida AR (**2007**) A transgenic sperm marking system in the medfly, as a tool for pest control strategies and sperm use analysis. *Entomological Research* **37** (Suppl. 1): A56.
- Bonizzoni M, Gomulski LM, Bertin S, **Scolari F**, Guglielmino CR, Yuval B, Gasperi G, Malacrida AR (**2007**) Unfaithful mediterranean fruit fly *Ceratitis capitata*: impact on the SIT? In Vreysen MJB, Hendrichs J, Robinson AS (eds.) *Area-Wide Control of Insect Pests: From Research to Field Implementation*, 175-182. Springer, Dordrecht, The Netherlands.