

# BIOGRAPHY

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**Title and name**

Dr Maria NAVAJAS

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**Nationality**

French

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**Panel**

PLH

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**Education**

- PhD, Populations Biology, 1986, University of Montpellier II, France, 1986
  - Post-doctoral position 1987. National Institute of Genetics, Mishima, Japan
  - "Habilitation à Diriger des Recherches" (Qualification diploma for PhD supervisor), 1999 at University of Montpellier II, France.
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**Scientific and risk assessment experience**

- Study of invasive species with special emphasis in spider mites, Tetranychidae: determining pathways of colonisation of alien species and risk of invasion of new geographical areas. Use of genetic tools and modelling.
  - Identification of exotic and potentially invasive taxa, with focus on mite pests: development of molecular tools for systematics and phylogeny, use of worldwide databases.
  - Study of plant host/arthropod interactions: life history traits and functional genetic variation in support to pest management
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**Main scientific publications**

Navajas, M., de Moraes, G. Auger, P. & Migeon, A. 2012. Review of the invasion of Tetranychus urticae: biology, colonization pathways, potential expansion and prospects for biological control. Experimental and Applied Acarology. Online First. 10.1007/s10493-012-9590-5

Roderick, G., Hufbauer, R. and Navajas, M. 2012. Evolution and Biological Control. Evolutionary Applications ISSN 1752-4571

Boubou, A., Migeon, A., Roderick, G., Auger, P., Cornuet, JM., S Magalhaes and Navajas, M. 2012. Test of colonization scenarios reveals complex invasion history of the red tomato spider mite *Tetranychus evansi*. PLoS ONE 7(4): e35601. doi:10.1371/journal.pone.0035601

Sun, JT, Lian, C., Navajas, M. and Hong XY. 2012. Microsatellites reveals a strong subdivision of populations of *Tetranychus urticae* (Acari: Tetranychidae) in China. BMC Genetics, 13:8 doi:10.1186/1471-2156-13-8

Grbic, M....Navajas, M....and 53 others. 2011. The genome of *Tetranychus urticae* reveals herbivorous pest adaptations. Nature, 479: 487-492. doi:10.1038/nature10640

Nyoni, B.N., Gorman, K., Mzilahowa, T., Williamson, M.S., Navajas, M. Field, L.M. and Bass, C. 2011. Identification of a point mutation associated with pyrethroid resistance in the para-type sodium channel of the red spider mite, *Tetranychus evansi*. Insect Biochem. Mol. Biol. DOI 10.1002/ps.2145.

Santos de Mendonça, R., Navia, D., Diniz, I.R., Auger, P. and Navajas, M. 2011. A critical review on some closely related species of *Tetranychus sensu stricto* Tuttle & Baker (1968) (Acari: Tetranychidae) in the public DNA sequences databases. Experimental and Applied Acarology, DOI 10.1007/s10493-011-9453-5

Boubou, A., Migeon, A., Roderick, G. and Navajas, M. 2011. Recent emergence and worldwide spread of the red tomato spider mite, *Tetranychus evansi*: genetic variation and multiple cryptic invasions. Biological Invasions 13: 81-92, DOI: 10.1007/s10530-010-9791-y.

Navajas, M., Migeon, A., Estrada-Pena, A., Mailleux, AC., Servigne, P., Petanovic. 2010. Chapter 7.4: The Acari. In Invasive terrestrial invertebrates in Europe. Roques, A. et al Ed. BioRisk (special issue) 4(1): 149-192. FOI: 10.3897/biorisk.4.58.

Vilà, M., ..., M. Navajas, ...et al. 2010. How well do we understand the impacts of alien species on ecosystem services? A pan-European, cross-taxa assessment. In Frontiers in Ecology and the Environment 8(3): 135-144.

Migeon, A., Ferragut, F., Escudero-Colomar, LA., Fiaboe, K., Knapp, M., de Moraes, G.J., Ueckermann, E. Navajas, M. 2009. Modelling the potential distribution of the invasive tomato red spider mite: *Tetranychus evansi* (Acari: Tetranychidae). Exp. Appl. Acarol, 48:199-212. DOI: 10.1007/s10493-008-9229-8.

Roderick, G. K. and Navajas, M. 2009. The primacy of evolution in biological control. In M. H. Julien, R. Sforza, M. C. Bon, H. C. Evans, P. E. Hatcher, H. L. Hinz, and B. G. Rector, editors. CAB International, Wallingford, UK. pp 411-417.

Navajas, M. and Navia, D. 2009. DNA-based methods for eriophyoid mite studies: review, critical aspects, prospects and challenges. Experimental and Applied Acarology, 51: 257-271 DOI 10.1007/s10493-009-9301-z

Hurtado, M., Ansaloni, Cros-Arteil, S., T. Jacas, J.A. and Navajas, M. 2008. Sequence analysis of the ribosomal internal transcribe spaces region in spider mite species (Prostigmata: Tetranychidae) occurring in citrus orchards in Eastern Spain: use for species discrimination. Annals Applied Biology. 153: 167-174.

Navajas, M. and Roderick, G. 2008. Molecular diagnosis of insect pests. In: Entomology Encyclopedia. J. Capinera Eds, 2nd Edition. Academic Press, New York, pp. 191-196.

Carbonnelle, S., Hance, T., Migeon, A., Baret, P.V., Cros-Arteil, S. and Navajas, M. 2007. Genetic structure of *Tetranychus urticae* (Acari : Tetranychidae) populations revealed by microsatellite markers : effect of a South-North climatic gradient and related environmental factors. *Exp. Appl. Acarol.* 41:225-241.

Navia, D., De Moras, G; Roderick, G. and Navajas, M. 2005. The invasive coconut mite *Aceria guerreronis* Keifer (Aceri: Eriophyidae) – Origin and invasion sources inferred from mitochondrial (COI and 16) and ribosomal (ITS) DNA sequences. *Bull. Entomol. Res.* 95: 505-516.

Migeon, A., Cros, S. Navajas, M. 2004. The use of taxonomical and ecological databases combined with the genetic approach for tracking spider mite invasions. *Phytophaga XIV*: 757-765.

Roderick, G. and Navajas, M. 2003. Genes in new environments: Genetics and evolution in biological control. *Nature Reviews Genetics.* 4: 889-899.