

CURRICULUM VITAE

Isabel Borges

1. ACADEMIC DEGREES

2002 BSc Biology, University of the Azores.

2003 Post-graduation in Biological Protection of Ecosystems, University of the Azores.

2005 MSc in Biological Protection of Ecosystems, University of the Azores.

2009 PhD in Biology, speciality Ecology, University of the Azores.

2. COURSES ATTENDED

2006 “Generalized Linear Models in Ecology”

2007 “Short course in Chemical Ecology”

2007 “Design and Analysis of Experiments on the Behavioural Ecology of parasitoids”

2009 “Molecular Evolution, Phylogenetics and Adaptation”

2014 “R without fear: An R course in Evolutionary Ecology”

2018 “IUCN Red List Training Course”

2019 “Data publication through GBIF and preparation of data papers”

3. GRANTS

2003/2004 Master Grant from Foundation for Science and Technology (FCT) of the Portuguese Government SFRH/BM/13295/2003.

2004/2008 PhD grant from Foundation for Science and Technology (FCT) of the Portuguese Government SFRH/BD/18919/2004.

2012/2015 Post-Doc Grant from Regional Fund of Science of the Regional Government of the Azores M3.1.7/F/012/2011.

July-December 2018 Post-doc research grant from Fundação Gaspar Frutuoso
UID/BIA/00329/2013.

4. PROFESSIONAL EXPERIENCE

October 2019 and ongoing Ph.D. hired by the research project ECO2-TUTA
(ACORES-01-0145-FEDER-000081).

5. SCIENTIFIC MEETINGS

1999 34th European Marine Biology Symposium. Ponta Delgada, Azores,
Portugal.

2005 “International Symposium on Biological Control of Aphids and Coccids”.
Tsuruoka, Japan.

2007 “Ecology of Aphidophaga 10”. Athens, Greece.

2008 “XXIII International Congress of Entomology”. Durban, South Africa.

2010 “Ecology of Aphidophaga 11”. Perugia, Italy.

2012 i) Workshop “Augmentative Biological Control: scientific research, field
application and business”. Ponta Delgada, Azores, Portugal.

ii) Workshop “Biotechnology in Biological Control”. Ponta Delgada,
Azores, Portugal.

iii) “XV Iberian Congress of Entomology”. Angra do Heroísmo, Terceira,
Portugal.

2014 i) “O uso sustentável dos produtos fitofarmacêuticos”, Ponta Delgada,
Portugal.

ii) “cE3c PhD and PostDocs Meeting”, Lisboa, Portugal.

iii) “Neobiota 2014”, Antalya, Turkey.

2015 i) “4th Iberian Congress of Ecology”. Coimbra, Portugal.

ii) “1^{as} Jornadas do Ce3C”, Lisboa, Portugal.

iii) “XI Encontro Nacional de Biologia Evolutiva (ENBE)”. Oeiras, Portugal.

2016 “II International Conference on Island Evolution, Ecology, and Conservation”. Angra do Heroísmo, Portugal.

2018 “Risks and Benefits of Exotic Biological Control Agents” IOBC-WPRS Working Group Meeting. Ponta Delgada, Portugal.

2019 “Ecology of Aphidophaga 14”. Montréal, Canada.

6. SCIENTIFIC COMMUNICATIONS

5.1 Oral

2005

Borges, I., Soares, A. O. & Hemptinne, J.-L. Abundance and spatial pattern of aphids (Homoptera: Aphidoidea) and coccids (Homoptera: Coccoidea): Contribution to the knowledge of demographic strategies of aphidophagous and coccidophagous ladybird beetle (Coleoptera: Coccinellidae). *In: Proceedings of International Symposium on Biological Control of Aphids and Coccids.* Tsuruoka, Japan, pp:193-196.

2007

Borges, I., Soares, A. O. & Hemptinne, J.-L. Suitability of *Rhopalosiphum maidis* and *R. padi* (Homoptera: Aphididae) for *Scymnus interruptus* (Coleoptera: Coccinellidae). *In: Proceedings of Ecology of Aphidophaga* 10. Athens, Greece.

Nóia, M., **Borges, I.,** Soares, A. O. Intraguild predation between the aphidophagous ladybird beetles *Harmonia axyridis* and *Coccinella undecimpunctata* (Coleoptera: Coccinellidae): the role of the intra and extraguild prey densities. *In: Proceedings of Ecology of Aphidophaga* 10. Athens, Greece.

2011

Borges, I., Soares, A. O., Magro, A. & Hemptinne, J.-L. Prey availability in time and space is a driving force in life history evolution of aphidophagous and coccidophagous predatory ladybirds. *In: Proceedings of Ecology of Aphidophaga* 11. Perugia, Italy.

2013

Borges, I., Hemptinne, J.-L. & Soares, A. O. Contrasting population growth parameters of the aphidophagous *Scymnus nubilus* and the

coccidophagous *Nephus reunioni*. *In*: Proceedings of Ecology of Aphidophaga 12. Belgrade, Serbia.

2014

Vale, M., **Borges, I.**, Lucas, É., Soares, A. O., Oviposition behaviour componentes in ladybirds. *In*: Proceedings of the XVI Iberian Congress of Entomology.

Borges, I. Magro, A., Gil, A. & Soares, A. O. When invasibility blocks invasiveness: *Harmonia axyridis* Pallas (Coleoptera: Coccinellidae) in the Azores as a case study. *In*: Proceedings of the 8th International Conference on Biological Invasions. Antalya, Turkey.

2015

Borges, I., Magro, A., Gil, A. & Soares, A.O. Can invasibility of Azorean habitats overcome the invasiveness of *Harmonia axyridis* Pallas (Coleoptera: Coccinellidae)? *In*: Proceedings of the 4th Iberian Congress of Ecology. Coimbra, Portugal.

2016

Soares, A.O., Honek, A., Martinkova, Z., Skuhrovec, J., Cardoso, P., **Borges, I.** *Harmonia axyridis* did not establish in the Azores: the role of species richness, intraguild interactions and resource availability. *In*: Proceedings of the II International Conference on Island Evolution, Ecology, and Conservation. Angra do Heroísmo, Terceira, Portugal.

Borges, I., Magro, A., Gil, A. & Soares, A.O. *Harmonia axyridis* (Pallas) (Coleoptera: Coccinellidae) did not invade the Azores (Portugal): is invasibility to blame? *In*: Proceedings of the II International Conference on Island Evolution, Ecology, and Conservation. Angra do Heroísmo, Terceira, Portugal.

Soares, A.O., **Borges I.**, Magro, A. & Gil, A. Can invasibility of Azorean habitats overcome the invasiveness of *Harmonia axyridis* Pallas (Coleoptera:

Coccinellidae)? *In*: Proceedings of the XXV International Congress of Entomology. Orlando, USA.

2018

Rosagro, R.M., **Borges, I.**, Vieira, V., Pons, G. & Soares, A.O. Evaluation of the potential use of *Scymnus nubilus* Mulsant (Coleoptera: Coccinellidae) in augmentative biological control programs. *In*: Proceedings of the First International Congress of Biological Control. Beijing, China.

Rosagro, R.M., **Borges, I.**, Vieira, V., Pons, G. & Soares, A.O. Ecosystem services provided by the native predator *Scymnus nubilus* Mulsant (Coleoptera: Coccinellidae) against aphids on forestry nurseries. Proceedings of the IOBC-WPRS Working Group Meeting “Risks and Benefits of Exotic Biological Control Agents”. Ponta Delgada, Portugal.

2019

Borges, I. & Soares, A.O. Distribution data unveils niche segregation among aphidophagous *Scymnus* species in the Azores (Portugal). *In*: Proceedings of the international symposium “Ecology of Aphidophaga 14”. Montréal, Canada.

5.2 Poster

2008

Borges, I., Soares, A. O. & Hemptinne, J.-L., 2008. Spatial distribution of aphid and scale populations. *In*: Proceedings of XXIII International Congress of Entomology. Durban, South Africa.

2012

Borges, I., Hemptinne, J.-L. & Soares, A. O., 2012. Contrasting population growth parameters of the aphidophagous *Scymnus nubilus* and the coccidophagous *Nephus reunioni*. *In: Proceedings of XV Iberian Congress of Entomology*. Angra do Heroísmo, Terceira, Portugal.

2013

Pacheco, P., **Borges, I.**, Lucas, É. & Soares, A. O., 2013. Cost and benefits of wax production in larvae of *Scymnus nubilus* Mulsant (Coleoptera: Coccinellidae). *In: Proceedings of Ecology of Aphidophaga 12*. Belgrade, Serbia.

Sebastião, D., **Borges, I.** & Soares, A. O., 2013. Biology of *Scymnus subvillosus* (Goeze) (Coleoptera: Coccinellidae) fed on *Melanaphis donacis* (Passerini). *In: Proceedings of Ecology of Aphidophaga 12*. Belgrade, Serbia.

Roca, M., **Borges, I.** & Soares, A. O., 2013. Long-term effects of mass rearing on the performance of *Coccinella undecimpunctata* (Coleoptera: Coccinellidae). *In: Proceedings of Ecology of Aphidophaga 12*. Belgrade, Serbia.

Wallon, S., Roca, M., Fassin, M., **Borges, I.** & Soares A. O., 2013. Long term mass rearing does not decrease the fitness of *Scymnus nubilus* (Coleoptera: Coccinellidae). *In: Proceedings of Ecology of Aphidophaga 12*. Belgrade, Serbia.

2016

Rosagro, R.M., Vieira, V., **Borges, I.**, Arruda, P., Eleutério, T., Cabral, J., Nóbrega, C., Quintela, C. & Soares, A.O. Population dynamics of aphid species (Homoptera: Aphididae) infesting endemic plants reared in forestry nurseries in the Azores. *In: Proceedings of the II International*

Conference on Island Evolution, Ecology, and Conservation. Angra do Heroísmo, Terceira, Portugal.

2019

Borges, I., Arruda, P., Rosagro, R.M., Vieira, V., Pons, G. & Soares, A.O. Is *Scymnus nubilus* (Coleoptera: Coccinellidae) a good candidate as biological control agent of *Aphis frangulae* (Hemiptera: Aphididae)? In: Proceedings of the international symposium “Ecology of Aphidophaga 14”.

7. Publications

7.1 National journals without impact factor

Soares, A. O., **Borges, I.**, Cabral, S., Figueiredo, H. & Resendes, R., 2006. New records of Coccinellidae (Coleoptera) to the Azores islands. Relatórios e comunicações do Departamento de Biologia. XII Expedição científica do Departamento de Biologia. Pico 2005, 34: 87-91.

Ben-Dov, Y. A.O. Soares, **I. Borges**, 2012. New data on armoured scale insects (Hemiptera, Coccoidea, Diaspididae) from the Azores islands. *Arquipélago. Life and Marine Sciences*, 29: 67-68.

6.2 International journals with impact factor

Borges, I., Soares, A.O. & Hemptinne, J.-L., 2006. Abundance and spatial distribution of aphids and scales select for different life histories in their ladybird beetle predators. *J. Appl. Entomol.*, 130(8): 461-464.

Nóia M., **I. Borges** & A.O. Soares, 2008. Intraguild predation between the aphidophagous ladybird beetles *Harmonia axyridis* and *Coccinella undecimpunctata* (Coleoptera: Coccinellidae): the role of intra and extraguild prey densities. *Biological Control*, 46(2):140-146.

- Soares, A.O., **Borges, I.**, Borges, P.A.V., Labrie, G. & Lucas, É., 2008. *Harmonia axyridis*: What will stop the invader? *Biocontrol*, 53:127-145.
- Borges, I.**, Soares A.O., Magro, A. & Hemptinne, J.–L., 2011. Prey availability in time and space is a driving force in life history evolution of predatory insects. *Evolutionary Ecology*, 25:1307-1319.
- Borges, I.**, Hemptinne, J.–L. & Soares, A.O., 2013. Contrasting population growth parameters of the aphidophagous *Scymnus nubilus* and the coccidophagous *Nephus reunioni*. *BioControl*, 58:351-357.
- Borges, I.**, Nória, M., Camarinho, R., Rodrigues, A.S. & Soares, A.O., 2015. The alimentary canal of *Adalia bipunctata*: anatomical and histological approaches. *Entomological Science*, 18:66-73.
- Sebastião, D., **Borges, I.** & Soares, A.O., 2015. Effect of temperature and prey in the biology of *Scymnus subvillosus*. *BioControl*, 60:241-249.
- Roy, H.E., Brown, P.M.J., Adriaens, T., Berkvens, N., **Borges, I.**, Clusella-Trullas, S., Comont, R.F., De Clercq, P., Eschen, R., Estoup, A., Soares, A.O., Stals, R., Tinsley, M.C., Vandereycken, A., van Wielink, P., Vigišová, S., Zach, P., Zakharov, I.A., Zaviezo, T., Zhao, Z., 2016. *Harmonia axyridis*: an inspiration for global collaborations on invasion biology. *Biological Invasions*. 18(4):997-1044.
- Soares, A.O., Honek, A., Martinkova, Z., Skuhrovec, J., Cardoso, P., **Borges, I.**, 2017. *Harmonia axyridis* failed to establish in the Azores: the role of species richness, intraguild interactions and resource availability. *Biocontrol*, 62:423-434.
- Branco, B., Dalmau, L., **Borges, I.** & Soares, A.O., 2017. Life-history traits of the predator *Rhyzobius lophanthae* reared on the scale *Chrysomphalus dictyospermi*. *Bulletin of Insectology*, 70(2):231-235.
- Borges, I.**, Canepari, C., Rodriguez, I. & Soares, A.O., 2017. First record of *Rhyzobius forestieri* (Mulsant) (Coleoptera: Coccinellidae) for the Azores archipelago of Portugal. *The Coleopterists Bulletin*, 71(4):796-797.

Soares, A.O., Honek, A., Martinkova, Z., Brown, P.M.J., **Borges, I.**, 2018. Can native geographical range, dispersal ability and development rates predict the successful establishment of alien ladybird (Coleoptera: Coccinellidae) species in Europe? *Frontiers in Ecology and Evolution*. doi: 10.3389/fevo.2018.00057.

Rosagro, R.M., **Borges, I.**, Vieira, V., Pons, G. & Soares, A.O. (published online). Evaluation of *Scymnus nubilus* (Coleoptera: Coccinellidae) as biological control agent against *Aphis spiraecola* and *Cinara juniperi* (Hemiptera: Aphididae). *Pest Management Science*. DOI 10.1002/ps.5585

7. Book Chapters

Soares, A. O., **I. Borges**, P.A.V. Borges, G. Labrie & E. Lucas, 2008. *Harmonia axyridis*: what will stop the invader? In: Roy, H. and Wajnberg, E. (eds.). *From Biological Control to Invasion: the Ladybird Harmonia axyridis as a Model Species*. Springer, pp:127-145.

Ponta Delgada, the 27th of November 2019

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