

## CURRICULUM VITAE

**George D. Broufas**

Associate Professor of Agricultural Zoology and Entomology

(January 2018)

### 1. Personal Information

**Date of birth:** 8 June 1971

**Place of birth:** Thessaloniki, Greece

**Address (work):** Democritus University of Thrace, Department of Agricultural Development, Laboratory of Agricultural Entomology & Zoology, Pantazidou 193, Orestiada 68200, Greece

**E-mail:** [gbroufas@agro.duth.gr](mailto:gbroufas@agro.duth.gr) ; [geobroufas@gmail.com](mailto:geobroufas@gmail.com)

**Tel.:** +302552041154 (work); +306972302170

**Personal webpage:** <http://utopia.duth.gr/~gbroufas>

### 2. Career

2013 – now: Associate Professor, Department of Agricultural Development (DADev), Democritus University of Thrace (DUTH), Greece

2012 – now: Adjunct Professor, Mediterranean Agronomic Institute of Chania (MAICh)

2012 – 2013: Visiting Researcher, Institute for Biodiversity and Ecosystem Dynamics (IBED), University of Amsterdam (UvA), The Netherlands

2009 – 2013: Assistant Professor, Democritus University of Thrace, Greece

2003 – 2009: Lecturer, Democritus University of Thrace, Greece

2002 – 2003: Teaching Assistant, Technological Educational Institute of Larissa, Greece

2002 – 2003: Adjunct Lecturer, Democritus University of Thrace

2001 – 2002: Postdoctoral researcher, Aristotle University of Thessaloniki (AUTH), Greece

1999 – 2001: Military service

1997 – 2001: PhD student, Aristotle University of Thessaloniki, Greece.

1994 – 1997: Research associate, Aristotle University of Thessaloniki, Greece.

### 3. Studies

1997 - 2001: PhD in Agricultural Zoology

School of Agriculture, Aristotle University of Thessaloniki, Greece

1994 - 1996: MSc in Crop Protection (9.85/10.0)

School of Agriculture, Aristotle University of Thessaloniki, Greece

1989 - 1994: Bachelor in Agricultural Sciences (9.12/10.0)

School of Agriculture, Aristotle University of Thessaloniki, Greece

### 4. Research Interests

Biological control of insect and mite pests, Integrated pest management, Side-effects of pesticides to non-target organisms (arthropods), Day-degree phenological models, Diapause, Insect-plant interactions

### 5. Academic teaching / Supervision of students and trainees

#### Teaching

##### ▪ Postgraduate courses:

1) New trends in crop protection (2007-2014)

2) Integrated management of crop insect pests (since 2014)

3) Insect—Plant Interactions (since 2014)

4) Insect Management, Mediterranean Agronomic Institute of Chania (MAICh) (since 2012)

##### ▪ Undergraduate courses:

1) Insect pests of fruit trees and vines

2) Pests of stored products and of medical importance

3) Ecology

- 4) General zoology
- 5) Integrated crop management and certification

In the past, also: 1) Insect pests of arable crops and vegetables (2003-2014), 2) General zoology and entomology (2003-2014), 3) Acarology-Nematology (2003-2014), 3) Principles and methods of insect pest control (2005-2008), 3) Integrated pest management (2005-2009), 6) Ecotoxicology (2009).

#### Supervision of Students research

41 undergraduate students, 11 MSc students, 3 PhD students (in progress)

#### **6. Administrative positions**

- 1) Vice-president at the Department of Agricultural Development, DUTH
- 2) Member of the
- 3) Coordinator of the postgraduate program of the Department of Agricultural Development, DUTH (since 2014)
- 4) Member of the Postgraduate Program Committee (2007-2010), the Undergraduate Program Committee (since 2007) and the Library Committee (since 2008), Department of Agricultural Development, DUTH

#### **7. Major grants (2010-2018)**

- 2017 - 2018: Population dynamics of insect pests in tobacco fields (cv. Basma) in the area of Komotini (Position: PI; funded by Missirian SA)
- 2016 - 2017: Monitoring and qualitative assessment of mosquito trap in Evros (Position: PI ; funded by Benaki Phytopathological Institute)
- 2016 - 2017: Economic injury levels of *Helicoverpa armigera* in tobacco (Position: PI; funded by Missirian SA)
- 2016 - 2017: Integrated pest management in tobacco at the municipality of Komotini (Position: PI; funded by Missirian SA)
- 2016 - 2017: Biological pest control with *Macrolophus pygmaeus* populations as influenced by plant – mediated effects’ (Position: Partner; funded by Biobest Belgium NV)
- 2015 – 2017: Bilateral Exchange Program (Greece-Germany): ‘Beyond predation: exploring the role of omnivorous predators in the activation of plant defenses to optimize biological pest control’ (Position: Partner; funded by IKY and DAAD)
- 2015 - 2016: Evaluation of the selectivity of two insecticides to indigenous biological control agents in cotton fields in northern Greece (Position: PI; funded by Dupont de Nemours (France) SAS)
- 2015 : Evaluation of the toxic side-effects of Coragen to indigenous biological control agents commonly found in cotton fields (Position: PI; funded by Dupont Hellas SA)
- 2014 - 2017: Identification of promising natural enemies within the European *Chrysoperla carnea* (Neuroptera: Chrysopidae) cryptic species group (Position: PI; funded by Biobest Belgium NV)
- 2014 - 2015: Evaluation of the selectivity of two insecticides to indigenous biological control agents in cotton fields in northern Greece (Position: PI; funded by Dupont de Nemours (France) SAS)
- 2011- 2014: Bilateral Exchange Program (Greece-Germany): ‘Plant-mediated effects of herbivory by zoophytophagous predatory insects on pest species’ (Position: PI; funded by IKY and DAAD)
- 2005 – 2008: Toxicity of pesticides to non-target beneficial predatory mites of the family Phytoseiidae (Position: PI; funded by (EPEAK II) Greek Ministry of Education)

#### **8. Fellowships – Awards**

- 2009 OECD fellowship award, Visitor Researcher in the Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam, The Netherlands
- 2002-2003 Greek States Scholarships Foundation (IKY) fellowship awarded for postdoctoral research in Agricultural Entomology

1995-1999 Greek State Scholarships Foundation (IKY) Fellowship awarded for PhD studies in Agricultural Entomology

### **9. Scientific society memberships**

Panhellenic Entomological Society (HES); European Association of Acarologists (EURAAC); International Association of Neuropterologists (IAN); International Organization for Biological and Integrated Control (IOBC)

### **10. Experience in reviewing processes**

#### Grants/Project evaluation

2017 Project proposal reviewer for the Hellenic Foundation for Research and Innovation  
2016, 2017 Project proposal reviewer for COST Actions  
2017, 2012 Project proposal reviewer for the Austrian Science Fund  
2015 Project proposal reviewer for the Research Foundation Flanders – FWO  
2015 Committee member for the Hellenic Agricultural Organization – DEMETER for a research position in Entomology  
2014 Project proposal reviewer for Hellenic Agricultural Organization – DEMETER.

#### Scientific manuscripts evaluation

Arthropod Plant Interactions, Biological Control, BioControl, Bulletin of Entomological Research, Experimental and Applied Acarology, Insects, Hellenic Plant Protection Journal, MAYDICA, Phytoparasitica, PloS ONE, Physiological Entomology, Crop Protection, Archives of Phytopathology and Plant Protection, pre-submission article reviewing for USDA.

#### Editorial Board memberships

- Guest Associate Editor for Frontiers in Plant Science, Frontiers in Ecology and Evolution and Frontiers in Environmental Science Research Topic: '[Ecosystem Services and Disservices Provided by Plant-Feeding Predatory Arthropods](#)'
- Editorial Board member for Archives of Phytopathology and Plant Protection (2015-)

#### Member of the examination committee of dissertations

Member of the examination committee of:

- 18 PhD Theses (13 in the Agricultural University of Athens, 1 in DADev, DUTH), 2 in the University of Amsterdam (UvA)) (2006, 2007, 2008, 2011, 2012 & 2014, 2017),
- 6 MSc Theses in FAgr (AUPh) and 4 in DADev (DUTH) (2006, 2007, 2009 and 2010).

### **11. (Inter)national scientific activities**

2017 Recently elected Convenor of the IOBC Working Group - "[Integrated Control of Plant-Feeding Mites](#)"

2017 Advisory board member of the the Regional Scientific Council of Research and Innovation, East Macedonia and Thrace, Greece.

2017 Chair and member of the Organizing and the Scientific Committees of the 6th meeting of the IOBC-WPRS Working Group "[Integrated Control of Plant-Feeding Mites](#)", Chania, 4-7 September, 2017

2017 Member of the Scientific Committee of the 17th National Entomological Congress, Athens, 19-22 September 2017

2016 Chair and member of the Organizing Committee and the Scientific Committees of the meeting of the IOBC-WPRS Working Group "[Pesticides and Beneficial Organisms](#)" Chania, Crete 11-13 October, 2016.

2015 Co-Editor of the Proceedings of the 5th Working Group Meeting (Working Group "Integrated Control of Plant-Feeding Mites") at Castello de la Plana (Spain), September 7-10, 2015.

2015-2019 COST Action FA1405 'Using three-way interactions between plants, microbes and arthropods to enhance crop protection and production', Substitute Management Committee Member

- 2015 Member of the Scientific Committee of the 15th National Entomological Congress, Heraklion, Crete 20-23 October 2015
- 2013 Member of the Scientific Committee of the 4th Meeting of the IOBC Working Group - Integrated Control of Plant Feeding Mites, Paphos, Cyprus 9-12 September 2013.
- 2009 Member of the Scientific Committee of the 13th National Entomological Congress, Alexandroupolis, 3-6 November 2009
- 2010 Member of “ESCORT 3: Linking non-target arthropod testing and risk assessment with protection goals” (8-11th March 2010, The Netherlands).
- 2009 Member of the Organizing Committees of the workshop “Agricultural studies in Greece”, Democritus University of Thrace, Orestiada, 4 December 2009.
- 2008 Member of the Organizing Committee of scientific meeting on IPM in agricultural production organized within the actions to renovate DUTH’s undergraduate program (Democritus University of Thrace) with invited speakers from Greece and Italy (Orestiada, 21 May 2008).

## 12. Invited talks/lectures

- 2013 1) “Modern approaches in biological control”, 2) “The use of phytoseiid mites in integrated pest management”, 3) “Spider mites of economic importance”, 4) “Eriophyid mites pest of fruit crops and vegetables”. Faculty of Geotechnical Sciences and Environmental Management, Cyprus University of Technology (CUT), Cyprus (Erasmus, April 2013)
- 2012 “Biological control of crop pests”: Invited speaker, symposium organized by the Faculty of Agriculture, Aristotle University of Thessaloniki (4 February 2012).
- 2010 “Integrated Insect Pest Management”: Postgraduate seminars in Applied Entomology, Faculty of Science, Department of Biology, University of South Bohemia, Czech Republic (invitation by Prof. O. Nedved, 2010).
- 2010 “Insect Fauna of Olive Groves in Northern Greece”: Undergraduate lecture, Faculty of Science, Department of Biology, University of South Bohemia, Czech Republic (invitation by Prof. O. Nedved, 2010).
- 2008 “The role of crop protection in the production of quality and safe agricultural products”: Invited speaker, symposium organized by HES (Thessaloniki, 7 February 2008).

## 13. Publications

**In international peer-reviewed journals** | Total citations: 390 | h-index: 12 (Scopus)

- Pappas, M.L., Tavlaki, G., Triantafyllou, A., **Broufas, G.D.** (2018). Omnivore-herbivore interactions: thrips and whiteflies compete via the shared host plant. [Scientific Reports 8 Article number: 3996 \(2018\)](#), doi:10.1038/s41598-018-22353-2
- Pappas M.L., Broekgaarden C., **Broufas G.D.**, Kant M.R., Messelink G., Steppuhn A., Wäckers F. and N.M. van Dam 2017. The double-edged sword of induced plant defences in biological control. [Pest Management Science](#), doi: [10.1002/ps.4587](#)
- Pappas M.L., Steppuhn A., and **G.D. Broufas** 2016. The role of phytophagy by predators in shaping plant interactions with their pests. [Communicative and Integrative Biology](#), **9(2): e1145320** (invited)
- Pappas M.L., Steppuhn A., Geuss D., Topalidou N., Zografou A., Sabelis M.W. and G.D. Broufas 2015. Beyond predation: the zoophytophagous predator *Macrolophus pygmaeus* induces tomato resistance against spider mites, [PLoS ONE 10 \(5\): e0127251](#)
- Samaras K., Pappas M.L., Fytas E. and **GD. Broufas** 2015. Pollen suitability for the development and reproduction of *Amblydromalus limonicus* (Acari: Phytoseiidae), [BioControl 60\(6\): 773-782](#)
- van Maanen R., **Broufas G.**, P. de Jong, Aguilar-Fenellosa E., A. Revynthy, Sabelis M. W. and A. Janssen 2015. Predators marked with chemical cues from one prey have increased attack success on another prey species. [Ecological Entomology 40:60-68](#).
- Döker I., Pappas M.L., Samaras K., Triantafyllou A., Kazak C. and **Broufas G.** 2014. Compatibility of reduced-risk insecticides with the non-target predatory mite *Iphiseius degenerans* (Acari: Phytoseiidae). [Pest Management Science](#), doi: [10.1002/ps.3921](#)

8. Pappas M. L., Migkou F. and **G.D. Broufas** 2013. Incidence of resistance to neonicotinoid insecticides in greenhouse populations of the whitefly, *Trialeurodes vaporariorum* (Hemiptera: Aleyrodidae) from Greece. [Applied Entomology and Zoology 48: 373-378](#)
9. Pappas M.L., Karagiorgou E., Papaioannou G., Koveos D.S. and **G.D. Broufas** 2013. Developmental temperature responses of *Chrysoperla agilis* (Neuroptera: Chrysopidae), a member of the European carnea cryptic species group. [Biological Control 64\(3\):291-298](#).
10. Pappas M.L., Xanthis C., Samaras K., Koveos D.S. and **G.D. Broufas** 2013. Potential of the predatory mite *Phytoseius finitimus* (Acari: Phytoseiidae) to feed and reproduce on greenhouse pests. [Experimental and Applied Acarology 61\(4\): 387-401](#).
11. van Maanen R., **Broufas G.**, Oveja M.F., Sabelis M.W. and A. Janssen, 2011. Intraguild predation among herbivorous insects: western flower thrips larvae feed on whitefly crawlers. [BioControl 57 \(4\): 533-539](#).
12. Pappas M.L., **Broufas G.D.**, Tsarsitalidou O.K. And D.S. Koveos, 2011. Development and reproduction of the lacewings *Dichochrysa flavifrons* and *Dichochrysa zelleri* (Neuroptera: Chrysopidae) fed on two prey species. [Annals of the Entomological Society of America 104\(4\): 726-732](#).
13. Pappas, M.L., **Broufas, G.D.** and D.S. Koveos, 2011. Chrysopid predators and their role in biological control. [Journal of Entomology 8\(3\): 301-326](#).
14. Pappas M.L., **G.D. Broufas**, N. Koufali, P. Pieri and D.S. Koveos, 2011. Effect of heat stress on survival and reproduction of the olive fruit fly *Bactocera (Dacus) oleae*. [Journal of Applied Entomology 135\(5\): 359-366](#).
15. **Broufas G.D.**, M.L. Pappas and D.S. Koveos 2009. Effect of relative humidity on reproduction, longevity and ovarian maturation of the tephritid fly *Bactocera (Dacus) oleae*. [Annals of the Entomological Society of America 102\(1\): 70-75](#).
16. Pappas M.L., **G.D. Broufas** and D.S. Koveos, 2009. Effect of prey availability on development and reproduction of the predatory lacewing *Dichochrysa prasina* (Neuroptera: Chrysopidae). [Annals of the Entomological Society of America 102\(3\): 437-444](#).
17. Pappas M.L., **G.D. Broufas** and D.S. Koveos, 2008. Effect of relative humidity on development, survival and reproduction of the predatory lacewing *Dichochrysa prasina* (Neuroptera: Chrysopidae). [Biological Control 46: 234-241](#).
18. Pappas M.L., **G.D. Broufas** and D.S. Koveos, 2008. Effect of temperature on survival, development and reproduction of the predatory lacewing *Dichochrysa prasina* (Neuroptera: Chrysopidae) reared on *Ephestia kuehniella* eggs (Lepidoptera: Pyralidae). [Biological Control 45: 396-403](#).
19. Pappas M.L., **G.D. Broufas** and D.S. Koveos, 2008. The two spotted spider mite, *Tetranychus urticae* (Acari: Tetranychidae), alternative prey for the lacewing *Dichochrysa prasina* (Neuroptera: Chrysopidae). [European Journal of Entomology 105: 461-466](#).
20. **Broufas G.D.**, M.L. Pappas, G. Vassiliou and D.S. Koveos, 2008. Toxicity of certain pesticides to the predatory mite *Euseius finlandicus* (Acari: Phytoseiidae). [IOBC wprs Bulletin Vol. 35: 85-91](#).
21. Pappas, M.L., **Broufas, G.D.** and D.S. Koveos, 2007. Effect of mating frequency on fecundity and longevity of the predatory mite *Kampimodromus aberrans* (Acari: Phytoseiidae). [Experimental & Applied Acarology 43\(3\): 161-170](#).
22. Pappas, M.L., **Broufas, G.D.** and D.S. Koveos, 2007. Effects of various prey species on development, survival and reproduction of the predatory lacewing *Dichochrysa prasina* (Neuroptera: Chrysopidae). [Biological Control 43: 163-170](#).
23. **Broufas, G.D.**, M.L. Pappas, and D.S. Koveos, 2007. Development, survival and reproduction of the predatory mite *Kampimodromus aberrans* (Acari: Phytoseiidae) at different constant temperatures. [Environmental Entomology 36\(4\): 657-665](#).
24. **Broufas, G.D.**, M.L., Pappas and D.S. Koveos, 2006. Effect of cold exposure and photoperiod on diapause termination of the predatory mite *Euseius finlandicus* (Acari: Phytoseiidae). [Environmental Entomology 35 \(5\): 1216-1221](#).
25. Pappas, M.L., **Broufas, G.D.** and D.S. Koveos, 2005. Mating behavior of the predatory mite *Kampimodromus aberrans* (Acari: Phytoseiidae). [Experimental & Applied Acarology 36: 187-197](#).
26. **Broufas, G.D.**, 2002. Diapause induction and termination of the predatory mite *Euseius finlandicus* in peach orchards in northern Greece. [Experimental & Applied Acarology 25: 921-932](#).

27. **Broufas, G.D.**, D.S. Koveos and D.I. Georgatzis, 2002. Overwintering sites and winter mortality of *Euseius finlandicus* (Acari: Phytoseiidae) in a peach orchard in northern Greece. [Experimental & Applied Acarology 26: 1-21](#)
28. Koveos D.S., B.I. Katsoyannos and **G.D. Broufas**, 2002. First record of *Eurytoma schreineri* Schreiner (Hymenoptera: Eurytomidae) in Greece and some observations on its phenology. [Journal of Applied Entomology 126: 186-187.](#)
29. **Broufas G.D.** and D.S. Koveos, 2001. Cold hardiness in a strain of the predatory mite *Euseius (Amblyseius) finlandicus* (Acari: Phytoseiidae) from northern Greece. [Annals of Entomological Society of America 94: 82-90.](#)
30. Koveos, D.S., and **G.D. Broufas**, 2001. Survival under dry conditions of males and diapause and non-diapause females of the predatory mite *Euseius finlandicus* (Acari: Phytoseiidae). *Acta Societatis Zoologicae Bohemicae* 65: 247-251.
31. **Broufas G.D.** and D.S. Koveos, 2001. Rapid cold hardening in *Euseius (Amblyseius) finlandicus* (Acari: Phytoseiidae). [Journal of Insect Physiology 47:699-708.](#)
32. **Broufas, G.D.** and D.S. Koveos, 2001. Development, survivorship and reproduction of *Euseius finlandicus* (Acari: Phytoseiidae) at different constant temperatures. [Experimental & Applied Acarology 25: 441-460.](#)
33. Koveos D.S. and **G.D. Broufas**, 2000. Functional response of *Euseius (Amblyseius) finlandicus* and *Amblyseius andersoni* on *Panonychus ulmi* on apple and peach leaves in the laboratory. [Experimental & Applied Acarology 24: 247-256.](#)
34. **Broufas G.D.** and D.S. Koveos, 2000. Threshold temperature for post-diapause development and degree-days to hatching of winter eggs of the red spider mite *Panonychus ulmi* (Acari: Tetranychidae) in northern Greece. [Environmental Entomology 29: 710-713.](#)
35. **Broufas G.D.** and D.S. Koveos, 2000. Effect of different pollens on development, survivorship and reproduction of *Euseius finlandicus* (Acari: Phytoseiidae). [Environmental Entomology 29: 743-749](#)
36. Koveos D.S. and **G.D. Broufas**, 1999. Diapause induction and termination in eggs of the fruit tree red spider mite *Panonychus ulmi* in northern Greece. [Experimental & Applied Acarology 23: 669-679.](#)
37. Koveos D.S. and **G.D. Broufas**, 1999. Feeding history affects the response of the predatory mite *Typhlodromus kerkirae* (Acari: Phytoseiidae) to volatiles of plants infested with spider mites. [Experimental & Applied Acarology 23: 429-436.](#)
38. Koveos D.S., A. Veerman, **G.D. Broufas** and A. Exarhou, 1999. Altitudinal and latitudinal variation in diapause characteristics in the spider mite *Tetranychus urticae* Koch. [Entomological Science 2: 607-613.](#)
39. Koveos D.S., **G.D. Broufas**, E. Kiliaraki and M.E. Tzanakakis, 1996. Effect of prevention of flight on ovarian maturation and reproductive diapause in the olive fruit fly *Bactrocera (Dacus) olea* (Diptera: Tephritidae). [Annals of the Entomological Society of America 90: 337-340.](#)
40. Koveos D.S., N.A. Kouloussis and **G.D. Broufas**, 1995. Olfactory response of the predatory mite *Amblyseius andersoni* Chant to bean plants infested by the spider mite *Tetranychus urticae* Koch. [Journal of Applied Entomology 119: 615- 619.](#)

#### **Book chapters**

Alix A., Lewis G., **Broufas G.**, Coulson M., Delpuech E J.M., Dinter A., Hollrigl Rosta A., Musriska A., Smaghe G. and G. Weyman, 2012. Level of protection and Testing Scheme. In ESCORT 3 [Linking Non Target Arthropod Testing and Risk Assessment with Protection Goals](#). Editors: Anne Alix, Frank Bakker, Katie Barrett, Carsten A. Brühl, Mike Coulson, Simon Hoy, Jean Pierre Jansen, Paul Jepson, Gavin Lewis, Paul Neumann, Dirk Süßenbach, Peter van Vliet. Society of Environmental Toxicology and Chemistry (SETAC). 136pp.

**Contributions to International Conferences:** 39 abstracts in 18 international conferences

**Contributions to National Conferences:** 62 abstracts in 13 national conferences

**Other publications:** 1 laboratory guide on Entomology, 1 book translation, 3 fact sheets, 16 publications in Greek technical journals