Noelline TSAFACK

PhD Ecology
Insect Ecology
Ecological modelling
Biodiversity conservation
noelline.tsafack@gmail.com
https://noellinetsafack-en.blogspot.hk
https://orcid.org/0000-0003-3154-6295
https://github.com/noetsa

1 ACADEMIC ABILITIES AND EDUCATION

Conducting research studies from research proposal and funding, to articles publications and communication in congress; Managing field and lab work; Using advanced ecological statistics.

2014 **PhD** Ecology « Agrosystems, Ecosystems and Environment », Toulouse INP – ENSAT (France).

2010 **Master** Ecology, Evolution and Biometrics, University of de Lyon 1 (France).

2008 **Maitrise** (Four-year university diploma) Animal physiology, University of Yaoundé I (Cameroon).

2007 **Licence (B.Sc.)** Animal Biology, University of Dschang (Cameroon).

2 PROFESSIONAL EXPERIENCE

2.1 RESEARCH EXPERIENCE

01/2021 – AZORINA - Society of environmental management and nature conservation

→ Ecology of carabids: Project LIFE BEETLES
- Modelling and data analysis
- Field and laboratory work
- Peer review publications

Key words: Biodiversity conservation, islands ecosystems, endemic, introduced, native species, community, *In collaboration with Paulo Borges, paulo.av.borges@uac.pt; Teresa Ferreira, Maria.TM.Ferreira@azores.gov.pt*

01/2018 – 12/2020 : Postdoctorate University of Ningxia, China

→ Ecology of carabids and tenebrionids in Chinese grasslands; Ecology of insects in urban areas
- Project management, funding research and collaboration building
- Field and laboratory work (Conceptualisation and realisation)
- Data analysis
- Peer review publications (4 papers as first author)

Key words: Biodiversity conservation, Coleoptera, functional traits, disturbance, aridity, desertification, climate factors, GIS, *In collaboration with Yingzhong Xie, Xinpu Wang and Simone Fattorini. simone.fattorini@univaq.it*

09/2016 – 08/2017: Postdoctorate University of Amiens, UPJV, UR EDYSAN

→ Importance of hedgerows for carabids in agrosystems
Key words: Community and population ecology, carabids, hedgerows, GIS, GLM

11/2014 – 12/2014: Postdoctorate INRA UMR DYNAFOR

→ Landscape potential for pollen provisioning for beneficial insects favours biological control in crop fields
Key words: Aphids, biocontrol, ecosystems services, parasitoïds, natural habitats, *In collaboration with Aude Vialatte, aude.vialatte@ensat.fr*

10/2010 – 07/2014: Doctorate thesis at Toulouse

→ Integrated management of the cotton bollworm *Helicoverpa armigera*
Main skills developed: Disciplines (Landscape ecology/Entomology/IPM) – Fields work

(Experiment design – Sampling – farmers interviews – Technical team manager) – Laboratory techniques (HPLC/mass spectrometry; PCR; identification et insects rearing) – data analysis with GIS software and R programming – Communication: paper writing and congress presentations.
Supervision: A. Ouin (annie.ouin@toulouse-inp.fr), MCF ENSAT UMR Dynafor; P. Menozzi (philippe.menozzi@cirad.fr), CR CIRAD UR AIDA; and M. Deconchat (marc.deconchat@inra.fr), DR INRA UMR Dynafor

12/2009 – 07/2010: Undergraduate internship. Plant-bacteria interaction

→ Invasive species control: Understanding invasive strategies of *Fallopia*. *spp*. Biological denitrification inhibition

Main skills developed: Report writing – statistical analyses – Bacteria cultivation and Biochemical analyses (liquid chromatography of rhizome extracts) – soil-rhizome interface analysis.

Supervision : Franck Poly (franck.poly@univ-lyon1.fr, UMR 5557 : Écologie microbienne); Florence Piola (florence.piola@univ-lyon1.fr, UMR 5023 : Écologie des Hydrosystèmes Naturels et Anthropisés), MCFs University of Lyon 1

04/2009 – 06/2009: Undergraduate internship. Quantitative genetic. Host – parasite Interaction

→ Biological control: Study of the spatial dynamic of a potential effector (CIN3) of apple scab (*Venturia inaequalis*)

Main skills developed: Report writing – Quantitative genetics; Sequences analysis using BioEdit

2.2 TEACHING EXPERIENCE AND OUTREACH EXPERIENCE

I taught fundamentals in ecology, entomology, biodiversity (with the consequences of climate change and anthropogenic activities) at ENSAT (in French: School of Agronomy in Toulouse) and at Ningxia University (In English: School of agriculture in China).

I also have designed and managed a project involving students in a participatory science approach for my postdoctoral position in China.

I supervised students for internships related to my research projects.

French Qualification for Lectures and research MCF sections CNU 68 and 67

2018-2019 School of agriculture, NXU, China

Ecology, Biodiversity, data analysis and R for beginners

2016-2017 Full time Lecturer assistant – 192hours IUT Amiens

Biostatistics applied to agrosystem functioning
Agronomy
Practical courses in biochemistry

2015-2016 Part time Lecturer assistant ENSAT (School of Agronomy at Toulouse)

Biodiversity and Climate change

2014-2015 Part time Lecturer assistant ENSAT

Ecology and Environment
Biodiversity and Climate change
Practical courses Entomology, IPM

2013-2014 Full time Lecturer assistant – 192hours ENSAT

Ecology and Environment
C, N, O, H Cycles
Biodiversity and Climate change
Geomatics
Practical courses Entomology, IPM

2012-2013 Lectures ENSAT

Courses in Crop protection and Landscape ecology

3 PROFESSIONAL TRAINING

- Advanced ecological statistics at Doctoral school of Toulouse (SEVAB) with Professor Sovan LEK
- Molecular and chemical analysis

4 COMPLEMENTS

Languages
- English: Fluent
- French: Fluent
- Yemba: Fluent

Informatics
- Statistics: R, PAST and CANOCO; R language programming, especially for multivariate analyses (CCA, GLM, PLS, ESF analyses, etc.)
- Cartographic analysis (QGIS and ArcGIS)

Reviewer
- Reviewer for: *European Journal of Entomology, Crop & Pasture Science, Agricultural, Ecosystems & Environment, Insects*

Other
- Driving license B, First Aid Officer

5 LIST OF PUBLICATIONS

Publications (peer reviewed)

[10] Tsafack N, Fattorini S, Benavides Frias C, Xie Y, Wang X & Rebaudo F. Competing vegetation structure indices for estimating spatial constrains in carabid abundance patterns in Chinese grasslands reveal complex scale and habitat patterns. ***Insects*** *11, 249.* ***2020.*** *https://doi.org/10.3390/insects11040249*

[9] Tsafack N, Xie Y, Wang X & Fattorini S. Influence of climate and local habitat characteristics on carabid beetle abundance and diversity in Northern Chinese steppes*.* ***Insects*** *11, 19.* ***2020.*** *https://doi.org/10.3390/insects11010019*

[8] Tsafack N, Di Biase L, Xie Y, Wang X, Fattorini S. Carabid community stability is enhanced by diversity but reduced by aridity in Chinese steppes. ***Acta Oecologica***. ***2019.*** *https://doi.org/10.1016/j.actao.2019.103450*

[7] Tsafack N, Rebaudo F, Wang H, Nagy DD, Xie Y, Wang X, Fattorini S. Carabid community structure in northern China grassland ecosystems: Effects of local habitat on species richness, species composition and functional diversity. ***PeerJ*** 6:e6197 ***2019.*** *https://doi.org/10.7717/peerj.6197*

[6] Karp DS, Chaplin-Kramer R, (…), **Tsafack N** & al. Crop pests and predators exhibit inconsistent responses to surrounding landscape composition. ***PNAS*** ***2018.*** *https://doi.org/10.1073/pnas.1800042115*

[5] Vialatte A, **Tsafack N**, Hassan DA, Duflot R, Plantegenest M, Ouin A, Villenave-Chasset J & Ernoult A. Landscape potential for pollen provisioning for beneficial insects favours biological control in crop fields. ***Landscape Ecology*** *32: 465-480.* ***2017.*** *https://doi.org/10.1007/s10980-016-0481-8*

[4] Tsafack N, Alignier A, Head GP, Kim JH, Goulard M, Menozzi P & Ouin A. Landscape effects on the abundance and larval diet of the polyphagous pest *Helicoverpa armigera* in cotton fields in North Benin. ***Pest Management Science****, 72: 1613–1626.* ***2016***. *https://doi.org/10.1002/ps.4197*

[3] Bardon C, Piola F, Bellvert F, Haichar FEZ, Comte G, Meiffren G, Pommier T, Puijalon S, **Tsafack N** & Poly F. Evidence for biological denitrification inhibition (BDI) by plant secondary metabolites. ***New Phytologist****. 204: 620-630.* ***2014****.* *https://doi.org/10.1111/nph.12944*

[2] Tsafack N, Menozzi P, Brevault T, Soti V, Deconchat M & Ouin A. Effects of landscape context and agricultural practices on the abundance of cotton bollworm *Helicoverpa armigera* in cotton fields: A case study in northern Benin. ***International Journal of Pest Management****, 59 (4): 294-302.* ***2013.*** *http://dx.doi.org/10.1080/09670874.2013.852270*

[1] Ouin A, Menozzi P, Coulon M, Hamilton AJ, Sarthou JP, **Tsafack N**, Vialatte A & Ponsard S. Can deuterium stable isotope values be used to assign the geographic origin of an auxiliary hoverfly in south-western France? ***Rapid communications in mass spectrometry****, 25 (19) : 2793-2798.* ***2011.*** *https://doi.org/10.1002/rcm.5127*

Publications in review

[2] Tsafack N & Fattorini S. Niche overlaps and species co-occurrences in carabid communities in Chinese steppes. *Soumis à Zookeys, volume special du 31 Decembre 2020*.

[1] Tsafack N, Borges P, Xie Y, Wang X & Fattorini S. Emergent rarity properties in carabid communities from three major Chinese steppes following a stress gradient. *Soumis à Frontiers in Ecology and Evolution, volume special du 15 Septembre 2020*.

Other communications

[7] Tsafack N, Rebaudo F, Wang H, Xie Y, Wang X, Fattorini S. Carabid community in grasslands of northern China. International Symposium of Alfalfa Pest Monitoring and Integrated Pest Management. 10-14 September **2018** Yinchuan, Ningxia, China. Oral communication

[6] Tsafack N, Rebaudo F, Wang H, Xie Y, Wang X, Fattorini S. Carabid community in northern China grassland ecosystems – Does local habitat matter? 13th China National Conference for Biodiversity and Conservation. 14-17 August **2018** Hohhot, Inner Mongolia, China. Oral communication

[5] Tsafack N, Lenoir J, Martin L, Gallet-Moron E, Decocq G, Closset Kopp D, Le Roux V. Déterminants paysagers et locaux de l'activité-densité et de la richesse spécifique des carabes dans des paysages agricoles du Nord de la France. Petit Pois Déridé, 6-9 Juin **2017**, Paris-Saclay, Oral communication

[4] Tsafack N, Agroécologie d'un ravageur: *Helicoverpa armigera* dans les parcelles de coton au Nord-Bénin ; Workshop Divecosys, 01-06 Dec **2013**, Cotonou, Benin. Oral communication

[3] Tsafack N, Alignier A, Goulard M, Menozzi P & Ouin A. Is there a landscape effect on the abundance and trophic origin of *Helicoverpa armigera* moths in cotton fields? A case study in Benin. ESA. 10-13 Nov **2013**, Austin, TX USA. Oral communication

[2] Tsafack N, Menozzi P, Brevault T, Soti V, Deconchat M & Ouin A. Relative importance of landscapes contexts and agricultural practices to explain the abundance of *Helicoverpa armigera* larvae in cotton fields. ESA, 10-13 Nov **2013**, Austin, TX USA. Poster.

[1] Tsafack N, Menozzi P, Brevault T, Deconchat M & Ouin A. Is there a landscape effect on moth pest (*Helicoverpa armigera*) abundance and infestation rate in cotton fields in North Benin? OIBC. 07-10 May **2012**, Lleida, Spain. Oral communication