

# Benjamin ADROIT, PhD

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## DIPLOMAS

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### 2018 – International jointly supervised PhD in Environmental Sciences & Paleobiology

University of Bonn, Steinmann institute (Bonn, Germany) & University of Montpellier, Institut des Sciences de l'Evolution de Montpellier (Montpellier, France)

“Structures of European paleoforests from the late Cenozoic: input from plant-insect interactions”

Direction: PD Dr. Torsten Wappler (UniBonn-Steinmann) & Prof. Jean-Frédéric Terral (UM-ISEM)

Co-direction: Dr. Vincent Girard (UM-ISEM)

Grants: Deutsche Forschungsgemeinschaft DFG-project grant no WA 1492/8-1; 11-1.

Mention: “*magna cum laude*” (1.3)

2014 – **Master degree** Ecology-Biodiversity; specialty Biodiversity of plant (University of Montpellier), *with distinction*.

2012 – **Bachelor degree** Geoscience-Biology-Environment; specialty Biology and Earth Science, (University of Montpellier) *with distinction*.

## PUBLICATIONS

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- Girard, V., Fauquette, S., **Adroit, B.**, Ahmed, A., Paya, A., Ali, A.A., Paradis, L., Roiron, P., Leroy, S.A.G., Suc, J-P., 2019, Fossil macro- and micro-flora from Bernasso (Early Pleistocene, Southern France): new palaeoclimatic data and comparison of methods. *Palaeogeogr. Palaeoclimatol. Palaeoecol.* 267, 54-61 <https://doi.org/10.1016/j.revpalbo.2019.05.002>
- **Adroit, B.**, Girard, V., Kunzmann, Lutz., Terral, J-F., Wappler, T., 2018, Plant-insect interactions patterns in three European paleoforests of the late-Neogene – early-Quaternary. *PeerJ.* 24. <https://doi.org/10.7717/peerj.5075>
- **Adroit, B.**, Malekhosseini, M., Girard, V., Abedi, M., Rajaei, H., Terral, J-F., Wappler, T., 2018, Changes on herbivory pattern on the Persian ironwood (*Parrotia persica*) over the last 3 million years. *Rev. Palaeobot. Palynol.* 258, 22-35 <https://doi.org/10.1016/j.revpalbo.2018.06.007>
- **Adroit, B.**, Wappler, T., Terral, J-F., Ali, A.A., Girard, V., 2016. Bernasso, a paleoforest from the early Pleistocene: New input from plant–insect interactions (Hérault, France). *Palaeogeogr. Palaeoclimatol. Palaeoecol.* 446, 78-84. <http://dx.doi.org/10.1016/j.palaeo.2016.01.015>
- Kolibáč, J., **Adroit, B.**, Gröning, E., Brauckmann, C., Wappler, T., 2016. First Record of the Family Trogossitidae (Insecta, *Coleoptera*) in the Late Pliocene Deposits of Willershausen (Germany). *PalZ.* <https://doi.org/10.1007/s12542-016-0316-6>

## CONFERENCES & INVITED TALKS

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- **Adroit, B.**, Wang, B., Biogeographic history of the genus *Parrotia* highlighted by a new plant-insect interaction., The International Symposium of Major refugia of relict trees: Recent Advances in Research and Conservation, 7-13 July 2019, Shanghai Chenshan Botanical Garden, China.
- **Adroit, B.**, Wang, B., Biogeographic history of the Persian Ironwood highlighted by a new plant-insect interaction discovered in Germany (-3 Ma) (*poster*), 8th International Conference on Fossil Insects, Arthropods & Amber 8-12 April 2019, Santo Domingo, Republic Dominican.
- **Adroit, B.**, The Plio-Pleistocene biogeographic history of *Parrotia persica* highlighted by a new plant-insect interaction. The 5th international palaeontological congress, 9-13 July 2018, Paris, France.
- **Adroit, B.**, Girard, V., Terral, J-F., Wappler, T., Structure of the European palaeoecosystems from the Plio-Pleistocene transition: inputs of the plant-insect interactions. 88th Annual Conference of the Paläontologische Gesellschaft, 26-30 March 2017, Münster, Germany., Abstracts, p.23.
- Malekhosseini, M., **Adroit, B.**, Wappler, T., Herbivore density and leaf damage on Persian ironwood, *Parrotia persica*, in the Caspian Hyrcanian mixed forest. 87th Annual Conference of the Paläontologische Gesellschaft, 11-15 September 2016, Dresden, Germany., Abstracts, p.5.
- **Adroit, B.**, Girard, V., Terral, J-F., Wappler, T., Plant-insect interaction at Willershausen (-3 Ma, Germany): insights into the structuration of an important late European Palaeoecosystem. 7th International Conference on Fossil Insects, Arthropods & Amber, 26 April-1 May 2016, Edinburgh, Scotland., Abstracts, p.4.
- ▽ **Adroit, B.**: Input from herbivory traces in our understanding of paleoenvironments, 2<sup>nd</sup> February 2020, PAN Polish Academy of Sciences, Warsaw, Poland
- ▽ **Adroit, B.**: Evolution of trophic structure forest in Eurasia, 3<sup>th</sup> April 2019, Xishuangbanna Tropical Botanical Garden CAS, Menglun, China.
- ▽ **Adroit, B.**: Structures des paléoforêts Européennes à la fin du Cénozoïque : l'intérêt des interactions plantes-insectes. 25<sup>th</sup> June 2018, ISEM, Montpellier, France.
- ▽ **Adroit, B.**: Persian Ironwood (*Parrotia persica*): the story of a survivor from the glacial crises. Meeting about Iranian ecosystems. 19<sup>th</sup> June 2017, IMBE, Aix-en-Provence, France.
- ▽ **Adroit, B.**: (Paleo)Ecosystem structuration: seen by Plant-Insect Interactions. Meeting of Paleontomology. 27<sup>th</sup> May 2015, Bonn, Germany.

## PROFESSIONAL EXPERIENCES

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### Currently

- **Post-doc position in Nanjing Institute of Geology and Paleontology**, Chinese Academy of Sciences (Nanjing, China); Structures of Chinese paleoforests from the Cenozoic although different abiotic conditions; Biogeography of the genus *Parrotia* along the Eurasian super-continent.
- **Member of the project 'ZELKOVA'**, [www.zelkova.ch](http://www.zelkova.ch)
- **Director of the project 'PARROTIA'**, website coming in 2020.
- **Project Reviewer for Fund for Scientific Research-FNRS**, F.R.S.-FNRS, Belgium.
- **Member of NECLIME project** (Neogene Climate Evolution in Eurasia), [www.neclime.de](http://www.neclime.de)
- **Member of Intern. Assoc. for Vegetation Science**, team Historical Vegetation Ecology, [www.iavs.org](http://www.iavs.org)

### Previously

- **Doctoral thesis** (2015/2018): Project wrote in collaboration with PD Dr. Torsten Wappler. International cooperation management (Bonn-Montpellier). Establishment of an international partnership with Tarbiat Modares University (Iran) assisted by Dr. Mehdi Abedi.
  - **Internship Master's degree 2** (2014): Herbivory on the fossil leaf record of Mush Valley, Oligocene, Ethiopia. Fieldwork in Museum of Addis-Abeba (Ethiopia), statistical analyses, fossil preparations, international collaborations, fossil identification. Curran Lab, Miami University, *Oxford OH, USA*.
  - **Internship Master's degree 1** (2013): Plant-insect interactions in the valley of Bernasso, Pleistocene, France. Fieldwork, statistical analyses, fossil preparation. Centre de Bio-Archéologie et d'Ecologie, *Montpellier University*.
  - **Supervisor of an ecological symposium** (semester 1, 2014): Role of the botanical collections in researches about tropical ecosystems. *CIRAD Montpellier*.
  - **Master's promotion student spokesperson** (2011 to 2014): logistics, planning management, official meeting. *Montpellier University*.
  - **Scientific facilitator** (2010-2011): scientific animations around biological and paleontological topics. *Carcassonne*.
  - **Archeological internship** (2010): Field excavations at *Domaine des châteaux de Lastours* with Dr. M-E Gardel.
- ❖ **President of a humanitarian association "Pelle M'L"** (since 2014): Funder of an international project in collaboration with Montpellier University ("Univerlacite") and local associations: Madagascar, Tchad, Togo; in discussions: Indonesia, Morocco, Argentina, Cameroon  
Diplomacy, administration, budget plans, animation.

## **COMPETENCES**

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**Scientific skills:** Paleoecology; Plant-insect interactions; Biodiversity and dynamic of ecosystems; Plant Biology; Structures of ecosystems; Evolution in biology; Biostatistics.

**Laboratory:** Fossil analysis with binocular, Fossil leaf cuticle preparation with hydrofluoric acid; Plant species identification; Climatic reconstructions (*via* CoA, LMA, CLAMP); Preparation and utilization of epifluorescence microscopes.

**Fieldwork & Museum collections:** Fossil excavation (clay, diatomite), Classification, Museum collection analysis, Setting up experimental protocol for fieldwork.

**Data processing:** Adobe (PSD, AI, Lightroom, ID); Microsoft soft, R, Past3, GIS, GPS

**Languages:** French (native); English (fluent); Spanish (academic); German (notions).

**Additional skills:** Management of international projects; Speaker; Photography, Website dev (HTML, CSS).

## **SCIENTIFIC CONCERNS**

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My scientific project focuses on forest ecosystems and their structures, mainly in paleontology. Temperate, Tropical and Mediterranean (paleo)ecosystems are included in my works. I am significantly concerned with trophic interactions and their changes during the time due to abiotic (such as climate parameters) and biotic factors. Paleobiology data from the last millions and thousands of years are crucial in order to better understand

the dynamics of ecosystems throughout the trophic interactions in these environments. In addition, I also focus on actual ecosystems to measure accurate biological data and compare results with fossil.

## TEACHING EXPERIENCES

Years	Teaching	Type	Degree	University	Hours
2019	Environment & Ecology: inputs of plant biology	Lecture	Bachelor	Nanjing University	10h
2015-2018	Herbivore density and leaf damage on Persian ironwood, <i>Parrotia persica</i> , in the Caspian Hyrcanian mixed forest.	Internship supervisor	Master	University of Bonn <sup>(GER)</sup>	1 student
2017	Tools and methods in reconstruction of paleoenvironments (ORPAM)	Fieldwork lesson	Master	University of Montpellier <sup>(FRA)</sup>	12h
2017	Animation, Communication, Culture and Education (ACCES)	Fieldwork lesson	Master	University of Montpellier <sup>(FRA)</sup>	6h
2017	Plant–Animal Interactions in Deep Time: Fossil Record, Coevolution, Ecological Relationships	Lecture	Master	University of Bonn <sup>(GER)</sup>	4h
2016	Integrative biology, technical and theoretical courses	Lecture + Practical course	Bachelor	University of Montpellier <sup>(FRA)</sup>	TP: 36h TD: 14h
2016	Dynamic of biodiversity and paleoenvironments	Oral examinations	Master	University of Montpellier <sup>(FRA)</sup>	4h
2015	Plants history and natural environments	Lecture	Bachelor	University of Montpellier <sup>(FRA)</sup>	7h
				<b>Total</b>	93h

## TEACHING QUALIFICATIONS

Assistant professor:

- ∴ Section CNU n°36: Earth : geodynamic & paleo-biosphere
- ∴ Section CNU n°67: Biology of populations and ecology
- ∴ Section CNU n°68: Biology of organisms

Assistant professor for National history:

- ∴ Section CNU n°36: Earth : geodynamic & paleo-biosphere
- ∴ Section CNU n°67: Biology of populations and ecology
- ∴ Section CNU n°68: Biology of organisms

\*CNU: "[Conseil National des Universités](#)" is the french institution in charge of the management for researcher/teacher at University

## PEDAGOGIC CONCERNS

I teach sciences to young people, with my experiences in scientific animations, and to students in their bachelor's and master's degrees. The majority of my teaching at University deals with animal and plant biology by focusing on the main concepts of evolution and ecology. As much as I can, I use Problem-based learning in lectures and/or practical courses, it seems the best method to teach theories and concepts in biology but it is also a good way to demonstrate how scientific process works. Meanwhile, my associative team and myself have

developed a social & educative project between academic students and pupils at an international scope. This one allow that group of students, from the University of Montpellier, to move abroad in order to elaborate local scientific projects, teach to local pupils and work together on local environmental problems.

## RECOMMENDATIONS

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**Dr. Torsten Wappler**, Hessisches Landesmuseum Darmstadt/ (Invertebrate paleontology),

[torsten.wappler@hlmd.de](mailto:torsten.wappler@hlmd.de)

**Prof. Adam A. Ali**, University of Montpellier (ISEM, Dynamic of ecosystems and global changes),

[ahmed-adam.ali@umontpellier.fr](mailto:ahmed-adam.ali@umontpellier.fr)

**Prof. Jean-Frédéric Terral**, University of Montpellier (ISEM, Dynamic of biodiversity, antropo-ecology),

[jean-frederic.terral@umontpellier.fr](mailto:jean-frederic.terral@umontpellier.fr)

**Dr. Morteza Djamali**, Aix-Marseille University (IMBE, Paleoenvironments and macroecological process),

[morteza.djamali@imbe.fr](mailto:morteza.djamali@imbe.fr)