

BECKER Nathalie, MNHN Local Coordinator

Bibliographic sketch narrative (max. 300 words)

Author of an interactive on-line course, IBAR (Invasive insects, Biological control, Agroecology in La Reunion), in french and english, my teaching topics (pHD/Masters level, or below) range from molecular biology to agroecology (90 hours/year, MNHN and Reunion University).

Molecular interactions in vivo best represent my research. A first focus on the mouse nervous system highlighted the function of 2 families of receptors: i) ephrins during the development of the hindbrain; ii) thyroid hormone receptors as transcriptional regulators in the hypothalamus.

Since 2006, understanding relationships between microorganisms and their hosts has become my common goal among a broad array of models: i) endosymbiotic and virus dynamics in the whitefly *B.tabaci*; ii) microbiota in zebrafish and fruitfly intestines; iii) phytopathogens from ancient herbarium samples. Hosted by the CIRAD/Reunion University in La Reunion for my research, I also represent the MNHN on this french island, hotspot of biodiversity, in collaboration with the IRD representation.

1	Family name	BECKER		
2	First name	Nathalie		
3	Place and Date of birth	Köln, Germany, 22/02/1965		
4	Nationality	French		
5	E-mail	nathalie.becker@mnhn.fr		
6	Education / Professional studies			
	Dates (from-to)	Institution	Degree/diploma	
	1988-1990	Institut National Agronomique Paris-Grignon	Agronomic engineer	
	1990-1996	Université Pierre et Marie Curie	Master & PhD : cellular and molecular biology	
	1996-2006	Université Pierre et Marie Curie	HDR in biological sciences (habilitation to direct research)	
7	Language skills Grade skill 1-5 (1 = basic, 5 = excellent, * = mother tongue)			
	Language	Speaking	Reading	Writing
	French	5	5	5
	German	3	4	3
	English	4	5	4

8	Membership of professional bodies			
9	Other Skills			
10	Name of organisation currently working for and Present position in the organisation	MNHN= Museum National d'Histoire Naturelle Associate Professor (Maître de conférences HDR, hors classe), MNHN representative in La Reunion		
11	Years with the organisation	27		
12	Long-term experience in selected countries/territories			
	Country	Date	Details	
	France (Paris)	1992-2005	Research in animal neurology/physiology/cellular and molecular biology	
	France (Reunion)	2006-2024	Research in micro-organisms-host interactions	
13	Professional experience record			
	Location	Date	Organisation	
1	Paris	1997-2005	MNHN, Evolution of endocrine regulations	
	Position	Associate Professor (Maître de conférences), animal neurology/physiology/cellular and molecular biology		
	Responsibilities	Teaching modules and PhD students		
2	Reunion Island	2006-2024		
	Position	Associate Professor (Maître de conférences), micro-organisms-host interactions		
	Responsibilities	Teaching modules and PhD students		
14	Publications			
	Number of publications in peer-reviewed journals			
	29			
	10 publications that are most representative in the field of tropical biodiversity and ecosystems			
	<ol style="list-style-type: none"> 1. Lefeuvre P., Martin DP., Hoareau M., Naze F., Delatte H., Thierry M., Varsani A., Becker N., B. Reynaud and J.-M. Lett. Begomovirus 'melting pot' in the south-west Indian Ocean islands: molecular diversity and evolution through recombination. <i>Journal of General Virology</i> (2007), 88. 3458–3468. 2. Ouattara, A., Tiendrébéogo, F., Becker, N. et al. Synergy between an emerging monopartite begomovirus and a DNA-B component. <i>Sci Rep</i> 12, 695 (2022). https://doi.org/10.1038/s41598-021-03957-7 3. Thierry M., Becker N., Hajri A., Reynaud B., Lett JM. and Delatte H. Symbiont diversity and non-random hybridisation among indigenous (Ms) and invasive (B) biotypes of <i>Bemisia tabaci</i>. <i>Molecular Ecology</i> (2011), 20(10) :2172-2187. 4. Mouton L., Thierry M., Henri H., Baudin R., Gnankine O., Reynaud B., Zchori-Fein E., Becker N., Fleury F. and Delatte H. (co-dernier auteur). Diversity and recombination evidence in <i>Arsenophonus</i> symbionts of the <i>Bemisia tabaci</i> species complex. <i>BMC microbiology</i> 2012, 12(Suppl 1):S10 (18 January 2012). 			

	<ol style="list-style-type: none"> 5. Badiou-Bénéteau, A., Benneveau, A., Gélet, F., Delatte, H., Becker, N., Brunet, J. L., Reynaud B. & Belzunces, L. P. (2013). Honeybee biomarkers as promising tools to monitor environmental quality. <i>Environment international</i>, 60, 31-41 6. Robène, I., Maillot-Lebon, V., Chabirand, A., Moreau, A., Becker, N., Moumène, A., ... & Pruvost, O. (2020). Development and comparative validation of genomic-driven PCR-based assays to detect <i>Xanthomonas citri</i> pv. <i>citri</i> in citrus plants. <i>BMC microbiology</i>, 20(1), 1-13. 7. Rieux, A., Campos, P., Duvermy, A., Scussel, S., Martin, D., Gaudeul, M., Lefeuvre P., Becker N. & Lett, J. M. (2021). Contribution of historical herbarium small RNAs to the reconstruction of a cassava mosaic geminivirus evolutionary history. <i>Scientific reports</i>, 11(1), 1-12. https://www.nature.com/articles/s41598-021-00518-w. 8. Ravigné, V., Becker, N., Massol, F., Guichoux, E., Boury, C., Mahé, F., & Facon, B. (2022). Fruit fly phylogeny imprints bacterial gut microbiota. <i>Evolutionary Applications</i>. https://doi.org/10.1111/eva.13352 9. P. Campos, O Pruvost, K Boyer, F Chiroleu, TT Cao, M Gaudeul, C Baider, TMA Utteridge, S Dominick, N Becker, A Rieux, L Gagnevin (co-derniers auteurs). Herbarium Specimen Sequencing Allows Precise Datation of <i>Xanthomonas citri</i> pv. <i>citri</i> Diversification History. <i>Nature Communications</i> 14.1 (2023): 4306. 10. Hutin M., Carpenter, S., Baruah, S., Campos, P., Boyer, K., Andriantsimalona, D., Rapanarivo, SH., Pruvost, O., Becker, N... & Rieux, A. (2024). Evolutionary and epidemiological insights from historical and modern genomes of <i>Xanthomonas oryzae</i> pv. <i>oryzicola</i>, the causal agent of bacterial leaf streak of rice. <i>Molecular Plant-Microbe Interactions</i> 		
15	Number of conference presentations (between brackets invited contributions)		
	International : 1 National : 1 & Invited talks : XX		
16	Most important awards		
	Award	Award date	Issuing organisation
1			
2			