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Associate Professor
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A. Personal Information:

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B. Professional Experience:

Associate Professor, Department of Systematics and Evolution, MNHN Paris.	Dec. 2008 - present
Curator of Isoptera, Embioptera, Ephemeroptera, Plecoptera, Psocoptera, Trichoptera, Zoraptera	Dec. 2008 - present
Postdoctoral Fellow, Reginald B. Cocroft, University of Missouri-Columbia (USA).	2007 - 2008
Doctoral fellow, Philippe Grandcolas, UPMC (Paris VI, France)	2004 - 2007

C. Education:

Ph.D. in Life Sciences, University Pierre et Marie Curie (Paris VI, France), Philippe Grandcolas, advisor. Dissertation title: *Phylogeny and Evolution of Social Behavior in Blattaria and Isoptera*. 2007.

Master's Degree in Biodiversity and Evolution, *Summa Cum Laude*, University Pierre et Marie Curie (Paris VI, France). 2004.

Bachelor's Degree in Biology of Populations and Ecosystems, *Summa Cum Laude*, University Rennes I (France). 2003.

D. Grants and Distinctions:

2011 – 2015. Five specific and generic calls at MNHN (20 k€)

2007 – 2008. Lavoisier Grant (18 k€), Ministère des Affaires Etrangères, France.

2006 – 2007. Two Grants from Paris Doctoral School ED 392 (2 k€).

2006. Rosen Price (500 \$), 3rd best student oral presentation, Hennig XXV, Oaxaca (Mexico).

2005 – 2007. Three Marie Stopes Student Travel Award (500 \$ each), Willi Hennig Society.

2004 – 2007. PhD Grant from Ministère de l'Éducation Nationale, de la Recherche et des Technologies (France).

2003 – 2004. DEA Grant from Ministère de l'Éducation Nationale, de la Recherche et des Technologies (France).

E. Publications:

33 publications in indexed journals, one book co-edited, h-index = 12, >500 citations (Google profile)

1. Legendre, F., Grandcolas, P. and Thouzé, F. Molecular phylogeny of Blaberidae (Dictyoptera, Blattodea) with implications for taxonomy and evolutionary scenarios. *European Journal of Taxonomy* (soumis)

2. Legendre, F. and Grandcolas, P. Order Dictyoptera: Blattodea. *In: Les Insectes du monde – classification – clés pour la reconnaissance des principales familles* (Aberlenc, H-P. and Delvare, G., Eds) (in press)
3. Colinet, C., Exbrayat, M., Robillard, T. and Legendre, F. Cockroach (Dictyoptera: Blattodea) species richness and composition along an elevational gradient in Papua New Guinea. *In: Insects of Mount Wilhelm, Papua New Guinea* (Robillard, T., Legendre, F., Villemant C. and Leponce M., Eds) (in press)
4. Leponce, M., Novotny, V., Pascal, O., Robillard, T., Legendre, F., Villemant, C. *et al.* Land module of *Our Planet Reviewed*, Papua New Guinea: aims, methods and first taxonomical results. *In: Insects of Mount Wilhelm, Papua New Guinea* (Robillard, T., Legendre, F., Villemant C. and Leponce M., Eds) (in press)
5. Robillard, T., Dong, J., Legendre F. and Agauvoa S. The brachypterous Lebinthini crickets from Papua New Guinea, with description of two genera and four new species (Orthoptera: Gryllidae: Eneopterinae). *In: Insects of Mount Wilhelm, Papua New Guinea* (Robillard, T., Legendre, F., Villemant C. and Leponce M., Eds) (in press)
6. Robillard, T., Legendre, F., Villemant C. and Leponce M. *Insects of Mount Wilhelm, Papua New Guinea*. Muséum national d'Histoire naturelle; Mémoires du Muséum national d'Histoire naturelle (in press)
7. Goutte S, Dubois A, Howard SD, Marquez R, Rowley JJJ, Dehling JM, Grandcolas P, Xiong R, Legendre F. 2016. Environmental constraints and call evolution in torrent dwelling frogs. *Evolution* 70:811–826.
8. Legendre, F., Chintauan-Marquier, I.C., Hugel, S., Robillard, T., Grandcolas, P., Nel, A., Zuccon, D. and Desutter-Grandcolas, L. (2016). Laying the foundations of evolutionary and systematic studies in crickets (Insecta, Orthoptera): a multilocus phylogenetic analysis. *Cladistics* 32: 54-81.
9. Legendre, F., Nel, A., Svenson, G. J., Robillard, T., Pellens, R., & Grandcolas, P. (2015). Phylogeny of Dictyoptera: Dating the Origin of Cockroaches, Praying Mantises and Termites with Molecular Data and Controlled Fossil Evidence. *Plos One*, 10 (7): e0130127.
10. Legendre, F., Deleporte, P., Depraetere, M., Gasc, A., Pellens, R., Grandcolas, P. (2015). Dyadic behavioural interactions in cockroaches (Blaberidae): ecomorphological and evolutionary implications. *Behaviour* 152: 1229-1256.
11. Caesar, M., Roy, R., Legendre, F., Grandcolas, P. and Pellens, R. (2015). Catalogue of Dictyoptera from Syria and neighbouring countries (Lebanon, Turkey, Iraq and Jordan). *Zootaxa* 3948: 71-92
12. Picart, L., Forget, P.-M., D'Haese, C.A., Daugeron, C. Beni, S., Bounzel, R., Kergresse, E., Legendre, F., Muriene, J. and Guilbert, E. (2014). The cafotrop method: an improved rope-climbing method for access and movement in the canopy. *Ecotropica* 20: 45-52
13. Grandcolas, P., Nattier, R., Pellens, R. and Legendre, F. (2014) Diversity and distribution of the genus *Rothsilpha* (Dictyoptera, Blattidae) in New Caledonia: Evidence from new microendemic species. *In: Zoologia Neocedonica 8. Biodiversity studies in New Caledonia* (Guilbert, E., Robillard, T., Jourdan, H and Grandcolas, P. (Eds), Muséum national d'Histoire naturelle, Paris: 299-308
14. Nel, A., Prokop, J., Grandcolas, P., Garrouste, R., Lapeyrie, J., Legendre, F., Anisyutkin, L., and Kirejtshuk, A. G. (2014). The beetle-like Palaeozoic and Mesozoic roachoids of the so-called “umenocoleoid” lineage (Dictyoptera: Ponopterixidae fam. nov.). *Comptes Rendus Palevol.* 13: 545-554
15. Coty, D., Aria, C., Garrouste, R., Wils, P., Legendre, F. and Nel, A. (2014). The first ant-termite syninclusion in amber with CT-scan analysis of taphonomy. *PLoS ONE* 9: e104410
16. Legendre, F., D'Haese, C. A., Deleporte P., Pellens, R., Whiting M. F., Schliep K. and Grandcolas, P. (2014) The evolution of social behaviour in Blaberid cockroaches with diverse habitats and social systems: phylogenetic analysis of behavioural sequences. *Biological Journal of the Linnean Society* 111: 58-77
17. Goutte, S., Dubois A. and Legendre, F. (2013) The importance of ambient sound level to characterise anuran habitat. *PLoS ONE* 8: e78020

18. Legendre, F., Whiting, M. F. and Grandcolas, P. (2013) Phylogenetic analyses of termite post-embryonic sequences illuminate caste and developmental pathway evolution. *Evolution & Development* 15: 146-157
19. Legendre, F., Marting, P. R. and Cocroft, R. B. (2012) Competitive masking of vibrational signals during mate searching in a treehopper. *Animal Behaviour* 83: 361-368
20. Grandcolas, P., Nattier, R., Legendre, F. and Pellens, R. (2011). Mapping extrinsic traits such as extinction risks or modelled bioclimatic niches on phylogenies: does it make sense at all? *Cladistics* 27: 181-185
21. Legendre, F., Robillard, T., Song, H., Whiting, M. F. and Desutter-Grandcolas, L. (2010). One hundred years of instability in Ensiferan relationships. *Systematic Entomology* 35: 475-488
22. Legendre, F., Robillard, T., Desutter-Grandcolas, L., Whiting, M.F. and Grandcolas, P. (2008). Phylogenetic analysis of non-stereotyped behavioral sequences with a successive event-pairing method. *Biological Journal of the Linnean Society* 94: 853-867
23. Legendre, F. (2008). Cockroaches: Ecology, Behavior, and Natural History (by Bell, W. J., Roth, L. M. et Nalepa, C. A.) Book Review. *The Quarterly Review of Biology* 83: 222
24. Legendre, F., Whiting, M. F., Bordereau, C., Canello, E. M., Evans, T. and Grandcolas, P. (2008). The phylogeny of termites (Dictyoptera: Isoptera) based on mitochondrial and nuclear genes: implications for the evolution of the worker and pseudergate castes, and foraging behaviors. *Molecular Phylogenetics and Evolution* 48: 615-627
25. Legendre, F., Pellens, R. and Grandcolas, P. (2008). A comparison of behavioral interactions in solitary and presocial Zetoborinae cockroaches (Blattaria, Blaberidae). *Journal of Insect Behavior* 21: 351-365
26. Desutter-Grandcolas, L., Legendre, F., Grandcolas, P., Robillard, T. and Murienne, J. (2007). Distinguishing between convergence and parallelism is central to comparative biology: a reply to Williams and Ebach. *Cladistics* 23: 90-94
27. Pellens, R., D'Haese, C. A., Bellés, X., Piulachs, M-D., Legendre, F., Wheeler, W. and Grandcolas, P. (2007). The evolutionary transition from subsocial to eusocial behavior in Dictyoptera: phylogenetic evidence for modification of the "shift-in-dependent-care" hypothesis with a new subsocial cockroach. *Molecular Phylogenetics and Evolution* 43: 616-626
28. Pellens, R., Legendre, F. and Grandcolas, P. (2007). Phylogenetic analysis of social behavior evolution in [Zetoborinae + Blaberinae + Gyninae + Diplopterinae] cockroaches: an update with the study of endemic radiations from the Atlantic forest. *Studies in Neotropical Fauna* 42: 25-31
29. Robillard, T., Legendre, F., Desutter-Grandcolas, L. and Grandcolas, P. (2006). Phylogenetic analysis and alignment of behavioral sequences by direct optimization. *Cladistics* 22: 602-633
30. Desutter-Grandcolas, L., Legendre, F., Grandcolas, P., Robillard, T. and Murienne, J. (2005). Convergence and parallelism: is a new life ahead of old concepts? *Cladistics* 21:51-61
31. Murienne, J., Grandcolas, P., Piulachs, M. D., Bellés, X., D'Haese, C., Legendre, F., Pellens, R. and Guilbert, E. (2005). Evolution on a shaky piece of Gondwana: is local endemism recent in New Caledonia? *Cladistics* 21: 2-7
32. Grandcolas, P., Legendre, F., Park, Y. C., Bellés, X., Murienne, J. and Pellens, R. The genus *Cryptocercus* in East Asia: distribution and new species (Insecta, Dictyoptera, Blattaria, Polyphagidae). *Zoosystema* 27: 725-732
33. Grandcolas, P., Guilbert, E., Robillard, T., D'Haese, C. A., Murienne, J. and Legendre, F. (2004). Mapping characters on a tree with or without the outgroups. *Cladistics* 20: 579-582

F. Scientific Meetings:

- Goutte, S., Dubois, A., Legendre F*. Environmental constraints and call evolution in torrent-dwelling frogs. Modern phylogenetic comparative methods, Seville, Spain, Seville, 11-15 November 2014
- Grandcolas, P.*, Pellens, R., Robillard, T., Jourdan, H., Legendre, F., Nel, A. and Nattier, R. Updating the dating : how old is New Caledonian biota ? Island Biology, Honolulu, Hawaii, 7-11 July 2014

- Goutte S.*, Dubois A., Legendre F. Evolution of advertisement calls in torrent dwelling frogs. International Bioacoustic Council XXIV, Pirenópolis, Brazil, 8-13 September 2013
- Legendre F.*, Nel A., Svenson G.J., Grandcolas P. Phylogeny and timing of diversification in Dictyoptera. XXXII Willi Hennig Society, Rostock, Germany, 3-7 August 2013
- Legendre, F.*, Whiting, M. F. and Grandcolas, P. Phylogenetic analyses of termite post-embryonic sequences illuminate caste and developmental pathway evolution. Form2012, MNHN, Paris, November 2012.
- Goutte, S.*, Dubois, A. and Legendre, F. Evolution of advertisement calls in torrent Ranids: communicating despite noise. 5th Asian Herpetological Conference, Chengdu (China), June 2012
- Goutte, S*., Dubois, A. and Legendre, F. Missing the sound ambient sound level is an important measure in animal ecology. *SERL Ecology and Behaviour 8th meeting*, Chizé (France), April 2012
- Goutte, S.*, Dubois, A. and Legendre, F. Communicating despite noise: evolution of advertisement call in torrent *Raninae*. International Bioacoustic Council XXIII, La Rochelle, September 2011
- Legendre, F.* and Grandcolas, P. Evolution of behavior and conflict among data sets in Blaberidae cockroaches. Hennig XXVIII, Singapore, June 2009
- Legendre, F.*, Nel, A., Bordereau C., Whiting, M. F. and Grandcolas P. A phylogenetic study of the evolution of caste system and developmental pathways in termites. Hennig XXVI, meeting of the Willi Hennig Society, New-Orleans (USA), June-July 2007
- Legendre, F., Robillard, T., Desutter-Grandcolas, L. and Grandcolas, P*. Revisiting Lorenz's earlier studies of behavior evolution: aligning behavioral sequences in Anatidae birds. Hennig XXVI, meeting of the Willi Hennig Society, New-Orleans (USA), June-July 2007
- Legendre, F.*, Whiting, M. F., Bordereau, C., Canello, E. M., Evans, T. and Grandcolas, P. Termites phylogeny and caste evolution. Hennig XXV, meeting of the Willi Hennig Society, Oaxaca (Mexico), August 2006
- Robillard, T., Legendre, F.*, Desutter-Grandcolas, L. and Grandcolas, P. Phylogenetic analysis and alignment of behavioral sequences by direct optimization. Hennig XXV, meeting of the Willi Hennig Society, Oaxaca (Mexico), August 2006
- Legendre, F., Robillard, T., Desutter-Grandcolas, L. and Grandcolas, P*. Phylogenetic analysis of non-stereotyped behavioral sequences: from successive event-pairing method to direct optimization? Hennig XXV, meeting of the Willi Hennig Society, Oaxaca (Mexico), August 2006
- Legendre, F.*, Packer, L., Agolin, M. and Grandcolas, P. The logical content of the classification of social behavior: a cladistic study. Hennig XXIV, meeting of the Willi Hennig Society, Fagernes (Norway), July 2005
- Legendre, F.*, Grandcolas, P., Bellés, X., Piulachs, M. D., Park, Y. C. and Murienne, J. Phylogenetics and biogeography in *Cryptocercus*: the old cockroach out (Dictyoptera: Blattaria). Hennig XXIII, meeting of the Willi Hennig Society, Paris (France), July 2004
- Desutter-Grandcolas, L.*, Grandcolas, P., Robillard, T., Murienne, J. and Legendre, F. Convergence and parallelism: is a new life ahead of old concepts? Hennig XXIII, meeting of the Willi Hennig Society, Paris (France), July 2004
- Grandcolas, P.*, Desutter-Grandcolas, L., Robillard, T., Legendre, F. and Murienne, J. Transaptation, a new concept to describe historical continuity of function with change of the associated structure. Hennig XXIII, meeting of the Willi Hennig Society, Paris (France), July 2004
- Murienne, J.*, Grandcolas, P., Piulachs, M. D., Bellés, X., D'Haese, C., Legendre, F., Pellens, R. and Guilbert, E. Evolution on a shaky piece of Gondwana: a phylogenetic analysis of the endemism in the cockroach genus *Angustonicus* in New Caledonia (Blattaria, Tryonicinae). Hennig XXIII, meeting of the Willi Hennig Society, Paris (France), July 2004

G. Invited lectures

- Legendre F.** 2016. Phylogeny and evolution of social behaviour in Dictyoptera. *Seminars of the Museu de Zoologia da USP, Sao Paulo, Brazil*
- Legendre, F.** 2011. Trop de préjugés tuent le préjugé. *XVII^{ème} congrès du Bureau des Doctorants et Etudiants du Museum, MNHN, Paris (France)*
- Legendre, F.** 2008. Phylogeny and evolution of social behavior in cockroaches and termites. *Seminars of the Division of Biological Sciences, University of Missouri-Columbia (USA)*
- Legendre, F.** 2006. Phylogenetic analysis of non-stereotyped behavioral sequences. *Seminars of the Department Systematics and Evolution, Museum national d'Histoire naturelle, Paris (France)*
- Legendre, F.** 2005. Phylogenetics and biogeography in the genus *Cryptocercus* (Dictyoptera: Blattaria). *Journées du Département Systématique et Evolution, Museum national d'Histoire naturelle, Paris (France)*

H. Mentoring

- Dominic Evangelista** (2016-2018). Post-doctoral fellow: Phylogenomics and diversification in Blaberoidea. Co-advisor with Akito Kawahara.
- Julien Troudet** (2014-). PhD fellow: Latitudinal diversity gradient and biodiversity databases. Co-advisor with Régine Vignes-Lebbe (HDR).
- Sandra Goutte** (2010-2014). PhD fellow: Adaptations to noisy torrent environments in frogs: combining morphological, eco-ethological and phylogenetic approaches. Co-advisor with Alain Dubois (HDR). Très honorable avec félicitations du jury.
- France Thouzé (2016)**. Master 2nd year SEP MNHN : Phylogenetic Signal and networks: a pilot study in Dictyoptera.
- Augustin Lafond (2014)**. Master 2nd year SEP MNHN : Evolution des mécanismes de stridulation chez les grillons du genre *Agnotecous* (Grylloidea, Eneopterinae, Lebinthini) Co-advisor with Tony Robillard
- Lauriane Pindrais** (BTS 2nd year – 2016)
- François Guichard** (BTS 2nd year – 2015)
- Camille Colinet** (Licence 2 Cergy-Pontoise – 2014-2015)
- Mylène Exbrayat** (Licence 3 Nancy – 2013-2014)
- Quentin Lefèvre** (BTS 2nd year – 2012-2013)
- François Moreau** (BTS 2012-2013)
- Delia Dupre** (Master 1st year – 2012)
- Gabin Colombini** (BTS 2nd year – 2011-2012) co-advisor with Cyrille D'Haese
- Laetitia Laborde** (Master 1st year SEP – 2011)

I. Teaching

Doctoral School 227, MNHN. Class « La phylogénie : support à l'analyse de l'évolution » (Class Coordinator : E. Guilbert)

- *Phylogenetic analyses of behavioural sequences* 2009 – present
- *Non-traditional characters in phylogenetics, from behaviour to geographic distribution: how to analyze them and according to what principles* 2009

Master 2 Sciences de l'Univers, Environnement, Ecologie (SDUEE) with emphasis in Systématique, Evolution, Paléobiodiversité (SEP), Université Paris VI.

- *Probabilistic phylogenetic inferences (SEP22)* 2016

Master 1 Sciences de l'Univers, Environnement, Ecologie (SDUEE) with emphasis in Systématique, Evolution, Paléobiodiversité (SEP), Université Paris VI. Classes « Bases de la phylogénie » and « Bases de la systématique » (Classes coordinator : P. Tassy and R. Vignes-Lebbe)

- *Probabilistic phylogenetic inferences* 2011 – present
- *Information sources in systematics : behavioural data* 2009 – present
- *Phylogenetic tests of evolutionary hypotheses* 2008, 2010 - present

Formation of High School teachers. Direction de l'Enseignement, de la Pédagogie et des Formations (DEPF), MNHN Paris.

- *Phylogenetic reconstruction : why and how ?* 2009 – present
- *Teaching classification and evolution of life*, scientific contribution to a website resource (<http://plateforme-depf.mnhn.fr>) 2009 – 2010
- *Classification of living beings*. Guest lecture in Paul Eluard Middle School, Montreuil (France) 2009

J. Professional services

Co-responsible of the teaching major 'Systematics and Evolution' in Master SEP (2015-)

Member of two **recruitment committees** at the Museum national d'Histoire naturelle (Paris, France)

Member of the **ISYEB council** (2005-2007; 2013-present)

Member of **grant decision panel** at MNHN (2013-present)

Member of the **SFS** (Société Française de Systématique) **council** (2012-2015)

Member of the **Willi Hennig Society** (WHS; 2008-present)

Member of the **WHS travel award committee** (2013-present)

Reviewer (Granting Agencies): National Science Foundation (NSF, USA); Agence Nationale de la Recherche (ANR, France); Mission Europe et International pour la Recherche, l'Innovation et l'Enseignement Supérieur (MEIRIES, France).

Reviewer for > 15 journals: Annals of the Entomological Society of America, Behavioural Processes, Cladistics, Ethology, Insects, Journal of Biogeography, Molecular Biology and Evolution, Molecular Phylogenetics and Evolution, Plos One, The Science of Nature, Zoological Journal of the Linnean Society, Zootaxa...

K. Field work

New Caledonia. 2016. Our Planet Reviewed. Study of cockroach communities and micro-endemism in Bwabwi.

French Guiana. 2015. Our Planet Reviewed. Collecting Orthopteroid Insects in Mitarka

Philippines. 2014. Study of cockroach communities in Palawan and around Manila

United States. 2013. Collecting *Cryptocercus punctulatus* in Virginia (Jefferson National Forest).

Papua New Guinea. 2012. Our Planet Reviewed, IBISCA Niugini. Collecting Orthopteroid Insects along an altitudinal transect on Mount Wilhelm.

New Caledonia. 2010. Rapid Assessment Program (Conservation International) on Mount Panié. In charge of Orthopteroid Insects

Indonesia. 2010. Study of cockroach communities with emphasis on *Perisphaerus* sp. (Blaberidae: Perisphaeriinae)

Singapore. 2009. Collect of cockroaches with a special emphasis on the subsocial species *Perisphaerus flexicollis* (Blaberidae: Perisphaeriinae)

United States. 2008. Field observations and collect of *Tylopelta* sp. (Hemiptera: Membracidae) in Missouri

French Guyana. 2006. Study of cockroach communities on Kaw Mountain with emphasis on Blaberinae and Zetoborinae (Blaberidae)

L. Scientific Diffusion & Popularization

Scientific contribution on biodiversity, systematics, cockroaches and termites for french **TV shows** (E=M6, 2013 and 2015), **popularization magazine** (Wapiti, 2011) and **ARTE documentary**.

Lecturer for *Empreintes* association (2012, 2013) and lay public (MNHN, 2013)