CURRICULUM VITAE — DOYLE BENTON MCKEY

Etat civil

- **McKEY Doyle Benton**
- Né en 1949

Situation à l'Académie :

- **Elu correspondant en 2017**
- **Section 7** (Environnement et Territoires)
- Groupe de travail :
- Fonction exercée :

Situation actuelle :

- Professeur émérite, Université de Montpellier (depuis septembre 2017)

Coordonnées :

- **Professionnelles :** Centre d'Ecologie Fonctionnelle et Evolutive, UMR 5175, Montpellier
- **Adresse principale :** CEFE, UMR 5175, 1919 route de Mende, 34293 Montpellier Cedex 5
- **Région de rattachement :** Occitanie
- **Numéro de portable :** 06 20 42 13 44
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- **Adresse e.mel professionnelle :** doyle.mckey@cefe.cnrs.fr

Formations :

- Formation universitaire en 'Wildlife Science', Texas A&M University, 1967-1971 (Bachelor of Science, 1971)
- Cours « Fundamentals of Tropical Ecology », Organization for Tropical Studies, 1971 (cours intensif de deux mois sur le terrain, Costa Rica)
- Etudes doctorales en biologie évolutive, University of Chicago (1971-1972) et University of Michigan (1972-1979 ; Ph.D, 1979)
- Stage post-doctoral, University of Wisconsin, 1979-1980

Carrière (principaux postes occupés) :

- Professeur Assistant, Institut de Zoologie, Université de Bâle (Suisse), 1981-1985
- Professeur en biologie et coordinateur du programme en biologie tropicale, Université de Miami (USA), 1985-1994
- Professeur en écologie, Université de Montpellier, 1994-2017 (émérite depuis septembre 2017)

Domaines d'expertise :

- Ecologie des interactions durables
- Ecologie tropicale
- Ethnobiologie
- Agriculture précolombienne en Amazonie
- Ecologie des zones humides tropicales
- Evolution des plantes domestiquées

Mots clés : interactions plantes-animaux / écologie tropicale / agriculture comparée / agroécologie / écologie historique / domestication / plantes domestiquées à propagation végétative

Distinctions et prix :

- Visiting Professor (Shell Environmental Fellow), Universiti Brunei Darussalam, 1996 (salaire, lodgement, véhicule de terrain durant un an)
- Prix Terra Ficaria, Fondation Yves Rocher-Institut de France, 2006 (pour mes recherches sur les relations entre l'Homme et les plantes domestiquées; 20 000 €)
- Prix Clio pour la recherche archéologique (Prix pour des travaux en archéologie en outre-mer par des chercheurs basés en France). 2ème prix, S. Rostain et D. McKey. 2008
- Membre sénior, Institut Universitaire de France, Oct. 2011-Oct. 2016
- Prix Cozzarelli, Class V (Behavioral and Social Sciences), 2013. Prix donné par le comité editorial de la revue *PNAS* (*Proceedings of the National Academy of Sciences of the USA*) reconnaissant le meilleur article de l'année dans chacune des six classes reconnues dans *PNAS* recognized as outstanding contributions to the scientific

disciplines represented by the National Academy of Sciences. Le prix était donné pour l'article "Historical collections reveal patterns of diffusion of sweet potato in Oceania obscured by modern plant movements and recombination" (auteurs Caroline Roullier, Laure Benoit, Doyle B. McKey, Vincent Lebot). Lien: http://www.pnas.org/content/110/6/2205.full)

- Distinguished Ethnobotanist 2014 (Annual Ethnobotany Lecture, University of Kent/Royal Botanic Gardens, Kew; October 2014)
- Grand Prix Recherche, Société Française d'Ecologie, December 2014. "Le Grand prix de la SFE est destiné à récompenser une ou un écologue pour l'ensemble de ses travaux et son dévouement aux Sciences de l'Ecologie au sens large (contribution scientifique y compris formation, communication grand public, prises de position, etc)."

Fonctions actuelles ou récentes:

- Membre du Conseil Scientifique et Technique du FFEM (Fonds Français pour l'Environnement Mondial), 2010-présent
- Membre du Comité de Direction, Observatoire Hommes/Milieux Oyapock (INEE/CNRS; Guyane française), 2013-présent
- Membre du Conseil Scientifique, projet "Longtime" (pre-Columbian occupation and historical ecology of French Guianan rainforests), financé par le Labex CEBA (Laboratory of Excellence, Center for the study of Amazonian Biodiversity, CNRS Guyane), 2016-présent

Activités académiques ou professionnelles:

- Membre de comités de selection pour des postes de professeur et de maître de conferences, Université d'Aix-Marseille, Université de Paris XI (Orsay), Muséum National d'Histoire Naturelle, 2013-2017
- Président d'un comité d'évaluation HCERES (UMR 7206), 2017
- Referee, agences de financement de recherche en France (ANR, FRB), Allemagne (DFG), Nouvelle-Zélande (Marsden Fund), Etats-Unis (National Geographic), programmes bilatéraux France-Brésil (GUYAMAZON, CofeCub), jusqu'en 2017

Publications récentes representatives:

Articles:

1. McKey, D.B., M. Durécu, M. Pouilly, P. Béarez, A. Ovando, M. Kalebe, C.F. Huchzermeyer (2016) Present-day African analogue of a pre-European Amazonian floodplain fishery shows convergence in cultural-niche construction. *Proceedings of the National Academy of Sciences of the United States of America* 113(52): 14938-14943. DOI: 10.1073/pnas.1613169114
2. Zangerlé, A., D. Renard, J. Iriarte, L.E. Suarez Jimenez, K.L. Adame Montoya , J. Juilleret, D. McKey (2016) The *surales*, self-organized earth-mound landscapes made by earthworms in a seasonal tropical wetland. *PLOS One* 11(5): e0154269. doi:10.1371/journal.pone.0154269 ***This paper was selected by a member of the "Faculty of 1000 Biology" as a "Recommended" paper in ecology.***
3. Mayer, V., M. Frederickson, D. McKey, R. Blatrix (2014) Current issues in the evolutionary ecology of ant-plant symbioses. *New Phytologist* 202: 749-764.
4. McKey, D., M. Elias, B. Pujol, A. Duputié, M. Delêtre, D. Renard (2012). Maintien du potentiel adaptatif chez les plantes domestiquées à propagation clonale. *Revue d'ethnoécologie* [En ligne], 1 | 2012, mis en ligne le 29 novembre 2012. URL : http://ethnoecologie.revues.org/741 ; DOI : 10.4000/ethnoecologie.741
5. Renard, D., J. J. Birk, A. Zangerlé, P. Lavelle, B. Glaser, R. Blatrix, D. McKey (2013). Ancient human agricultural practices can promote activities of contemporary non-human soil ecosystem engineers: a case study in coastal savannas of French Guiana. *Soil Biology and Biochemistry* 62: 46-56.
6. Roullier, C., L. Benoît, D. McKey, V. Lebot (2013). Historical collections reveal patterns of diffusion of sweet potato in Oceania obscured by modern plant movements and recombination. *Proceedings of the National Academy of Sciences of the United States of America* 110: 2205-2210. ***Winner of the 2013 Cozzarelli Prize in Class V.***
7. Iriarte, J., M.J. Power, S. Rostain, F.E. Mayle, H. Jones, J. Watling, B.S. Whitney, D.B. McKey (2012). Fire-free land use in pre-1492 Amazonian savannas. *Proceedings of the National Academy of Sciences of the United States of America* 109: 6473-6478.
8. Delêtre, M., D. McKey, T.R. Hodkinson (2011). Marriage exchanges, seed exchanges and the dynamics of manioc diversity. *Proceedings of the National Academy of Sciences of the United States of America* 108: 18249-18254.

Chapitres d'ouvrages:

9. McKey, D., Renard, D., Comptour, M. (2017) Will the real raised-field agriculture please rise ? Indigenous knowledge and the resolution of competing visions of one way to farm wetlands. In P. Sillitoe (ed.), *Indigenous Knowledge. Enhancing its Contribution to Natural Resources Management*. CABI, Wallingford, UK, pp. 116-129.
10. McKey, D., Delêtre, M. (2017) The emergence of cassava as a global crop. In: C. Hershey (ed.), *Achieving Sustainable Cultivation of Cassava. Volume 1. Cultivation Techniques.* Burleigh Dodds Science Publishing, Sawston, UK, pp. 1-29.

Activités éditoriales:

- Referee (15-20 articles /an) pour plus de 50 revues dans des disciplines variées (écologie, botanique, biologie évolutive, géographie, archéologie, anthropologie, agonomie) ainsi que pour des grandes revues généralistes

Short biography

Professor of ecology at the University of Montpellier since 1995, McKey studies interactions between plants and animals, between plants and humans and between humans and landscapes in tropical ecosystems. He has worked on a diversity of themes in evolutionary ecology of both wild and domesticated organisms, including plant evolution under domestication, chemical ecology of plant-human interactions, and the domestication of landscapes by humans. His work is interdisciplinary in scope and he collaborates with researchers in many fields of natural and social sciences. His first work was on animal-plant interactions in African tropical forests, where he studied food selection by a generalist mammalian herbivore, the black colobus monkey, and coevolution of mutualism between ants and plants. His work has progressively shifted to the study of biotic interactions in the broad field of human ecology. He has studied the domestication and management of manioc by Amerindian farmers in South America, integrating genetic, ecological, ethnobiological and evolutionary approaches and using this plant as a model for understanding evolution under domestication in clonally propagated crop plants. He has also applied this integrative approach to the study of evolution under domestication in several other crop plants, including sorghum and sweet potato. His newest projects focus on interactions between natural and cultural processes in seasonally flooded tropical savanna ecosystems in South America and Africa. Activities of soil engineers such as earthworms and termites produce spatially self-organized « earth-mound landscapes » in these initially topographically uniform ecosystems. Humans also make spatially regular earth-mound landscapes in these ecosystems, by constructing agricultural raised fields. Whatever their origin—natural or cultural—the creation of spatially regular topographical heterogeneity transforms the functioning of these ecosystems. McKey studies how cultural and natural processes interact in savanna floodplain agroecosystems, and how these interactions could be integrated into biodiversity-based agriculture, in these environments and elsewhere.

McKey has published widely in (and reviewed manuscripts for) a wide range of journals, including high-impact generalist journals and top-tier journals in fields ranging from anthropology, archaeology and geography to ecology and evolutionary biology, soil science, botany and agronomy. His work has had significant impact in all these fields. As of December 30, 2017, his work has been cited 11,624 times (H = 56 ; Google Scholar). In ResearchGate (https://www.researchgate.net/profile/Doyle_Mckey/stats) his papers have been read 39,435 times and cited 8,341 times (as of December 30, 2017). His work has been recognized by several prizes, including the following:

The Grand Prix Recherche, Société Française d'Ecologie (2014). This award honors an outstanding ecologist for the body of his/her work and his/her devotion to ecological sciences in a broad sense (scientific contributions (including education), diffusion of knowledge to the general public, taking positions on issues. It is the highest award of the French national professional society for ecologists.

Distinguished Ethnobotanist, named by the University of Kent/Royal Botanic Gardens, Kew. He was invited to give the Annual Ethnobotany Lecture at Kew in October 2014.

Cozzarelli Prize, Class V (Behavioral and Social Sciences), National Academy of Sciences, USA (2013). The Cozzarelli Prize honors one outstanding paper in each of the six classes published in *PNAS* during the year. He and his co-authors (his PhD student Caroline Roullier was first author) won for a paper providing genetic evidence for the pre-European transport of South American sweet potato into Polynesia and relating it to linguistic and archaeological evidence on the same question.

Named senior member of the Institut Universitaire de France (2011-2016). Membership in the IUF honors and supports university professors (around the top 2%) with outstanding research programs.

Finally, McKey has made major contributions to the early careers of excellent researchers. His inspirational teaching and research supervision were cited in the award of the French Ecological Society's Grand Prix Recherche. He has co-authored publications with a total of 49 students and seven post-docs. His former students and post-docs hold permanent teaching and/or research positions (or, for the most recent graduates, post-doctoral positions) in 15 countries in Europe (France, Ireland, Luxembourg, Switzerland) and throughout the world (Australia, Burkina Faso, Cameroon, Congo Republic, Ecuador, Gabon, Mexico, Nepal, Republic of China, Thailand, USA).