



## How did hosts domestication modify life history traits of its pathogens?

Submitted by Bruno Le Cam on Wed, 06/10/2015 - 13:50

Titre	How did hosts domestication modify life history traits of its pathogens?
Type de publication	Article de revue
Auteur	De Gracia, Marie [1], Cascales, Mathilde [2], Expert, Pascale [3], Bellanger, Marie-Noëlle [4], Le Cam, Bruno [5], Lemaire, Christophe [6]
Editeur	Public Library of Science
Type	Article scientifique dans une revue à comité de lecture
Année	2015
Langue	Anglais
Date	june 19
Pagination	1-12
Titre de la revue	PLoS ONE

### Résumé en anglais

Understanding evolutionary dynamics of pathogens during domestication of their hosts and rise of agro-ecosystems is essential for durable disease management. Here, we investigated changes in life-history traits of the fungal pathogen *Venturia inaequalis* during domestication of the apple. Life traits linked to fungal dispersal were compared between 60 strains that were sampled in domestic and wild habitats in Kazakhstan, the center of origin of both host and pathogen. Our two main findings are that transition from wild to agro-ecosystems was associated with an increase of both spore size and sporulation capacity; and that distribution of quantitative traits of the domestic population mostly overlapped with those of the wild population. Our results suggest that apple domestication had a considerable impact on fungal characters linked to its dispersal through selection from standing phenotypic diversity. We showed that pestification of *V. inaequalis* in orchards led to an enhanced allocation in colonization ability from standing variation in the wild area. This study emphasizes the potential threat that pathogenic fungal populations living in wild environments represent for durability of resistance in agro-ecosystems.

URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua12437">http://okina.univ-angers.fr/publications/ua12437</a> [7]
DOI	10.1371/journal.pone.0122909 [8]

### Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=21683](http://okina.univ-angers.fr/publications?f[author]=21683)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=21684](http://okina.univ-angers.fr/publications?f[author]=21684)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=12983](http://okina.univ-angers.fr/publications?f[author]=12983)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=13213](http://okina.univ-angers.fr/publications?f[author]=13213)
- [5] <http://okina.univ-angers.fr/b.lecam/publications>
- [6] <http://okina.univ-angers.fr/christophe.lemaire/publications>
- [7] <http://okina.univ-angers.fr/publications/ua12437>
- [8] <http://dx.doi.org/10.1371/journal.pone.0122909>

