

Peer Community In...

Denis Bourguet
Benoit Facon
Thomas Guillemaud



**A free recommendation process of unpublished
scientific papers based on peer reviews**



<https://peercommunityin.org>, @PeerCommunityIn

PCI

Scientific Publication

• What is the value of publishing scientific articles?

- Makes science public
- Ensures the quality of science
- Defines anteriority of results
- Makes articles searchable/findable
- Archives for the future



Tennant et al. *Publications* 2019, 7(2), 34

• Inefficient system

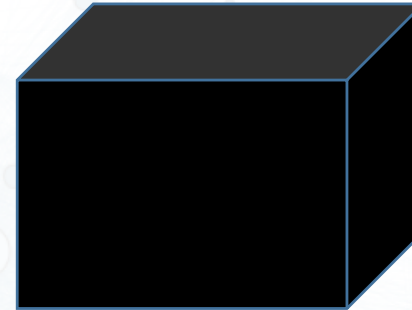
- Submissions/rejections in cascade
- 2 months to 1 year for an evaluation
- > 1-2 years to read a paper



Scientific Publication

- **Not transparent**

- Reviews and decisions not published
- Editor not always known
- Readers do not know why papers are accepted



- **New model of paid OA: A Vicious system**

- Paying OA: Every accepted article contributes to the publishers' turnover
- + Researchers are evaluated on their ability to publish
- = Conjunction of interest between researchers and publishers
- snowball effect, should decrease quality

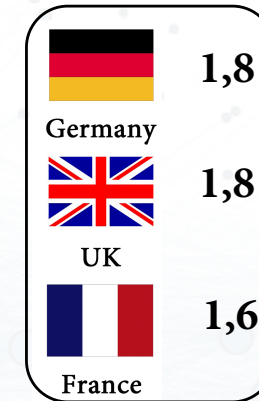


Scientific Publication

• New model of paid OA: APCs unrealistic and unethical



Months of salary equivalent to a single APC (2750€)



Debat, Humberto, & Babini, Dominique. (2019). Plan S in Latin America: Primum non nocere. Zenodo. <http://doi.org/10.5281/zenodo.3482933>

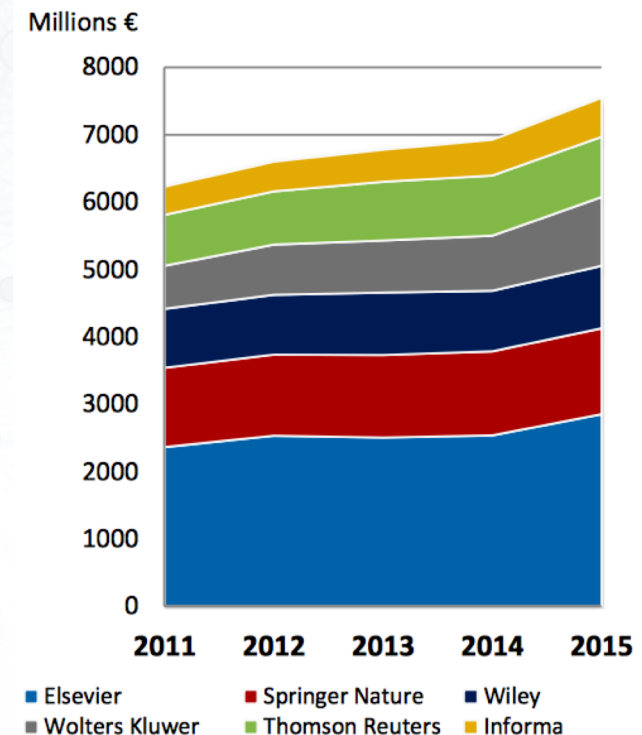
<https://peercommunityin.org>, @PeerCommunityIn

Expensive system held by 6 big publishers

- Big 6 publishers publish 54% of the scientific publications, 38% of the market
- France: ~€120 M/year
- World: ~€9 Billion / 3 millions articles
= 3000 € / articles



Evolution of their turnover



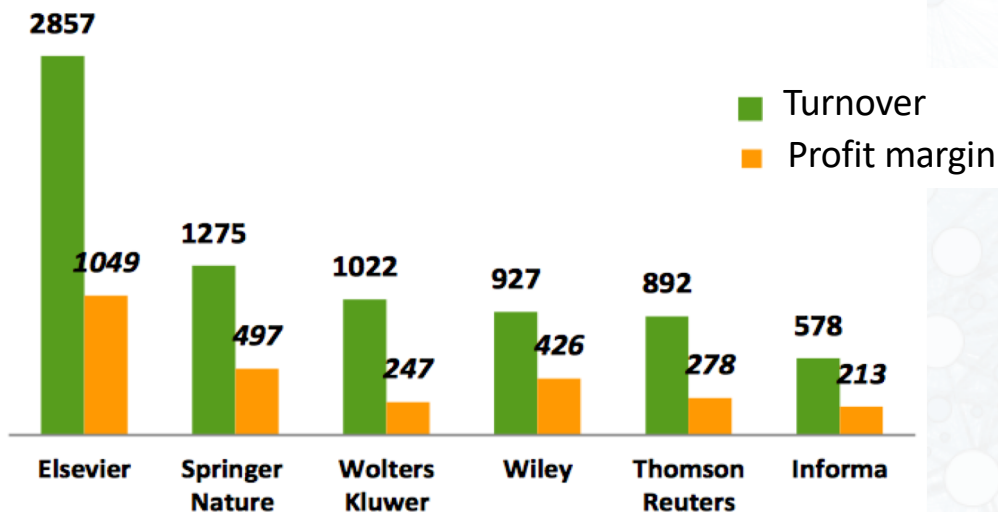
Sources: Eprist, 2018 STM report

<https://peercommunityin.org>, @PeerCommunityIn

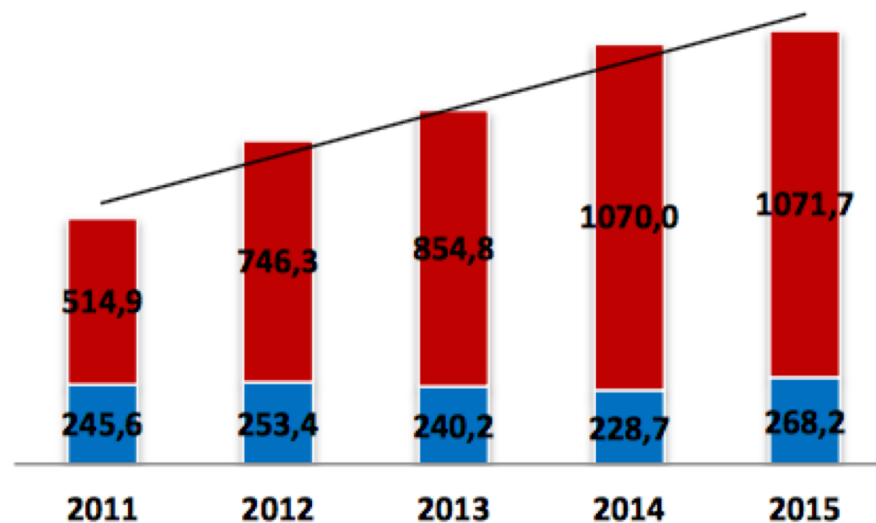
Non-standard profit margins

Millions €

Mean profit margin = **38%**



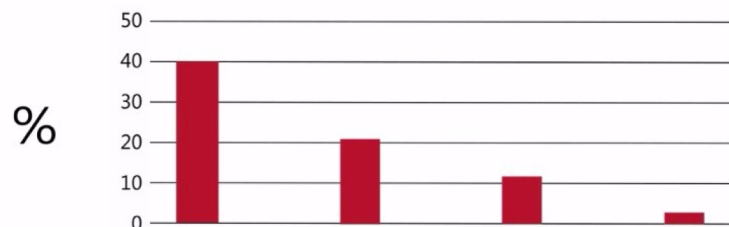
Sources: Eprist



Shareholder returns
Investments

Sources: Eprist

CORPORATE PROFIT MARGINS



Source: paywall, the moovie

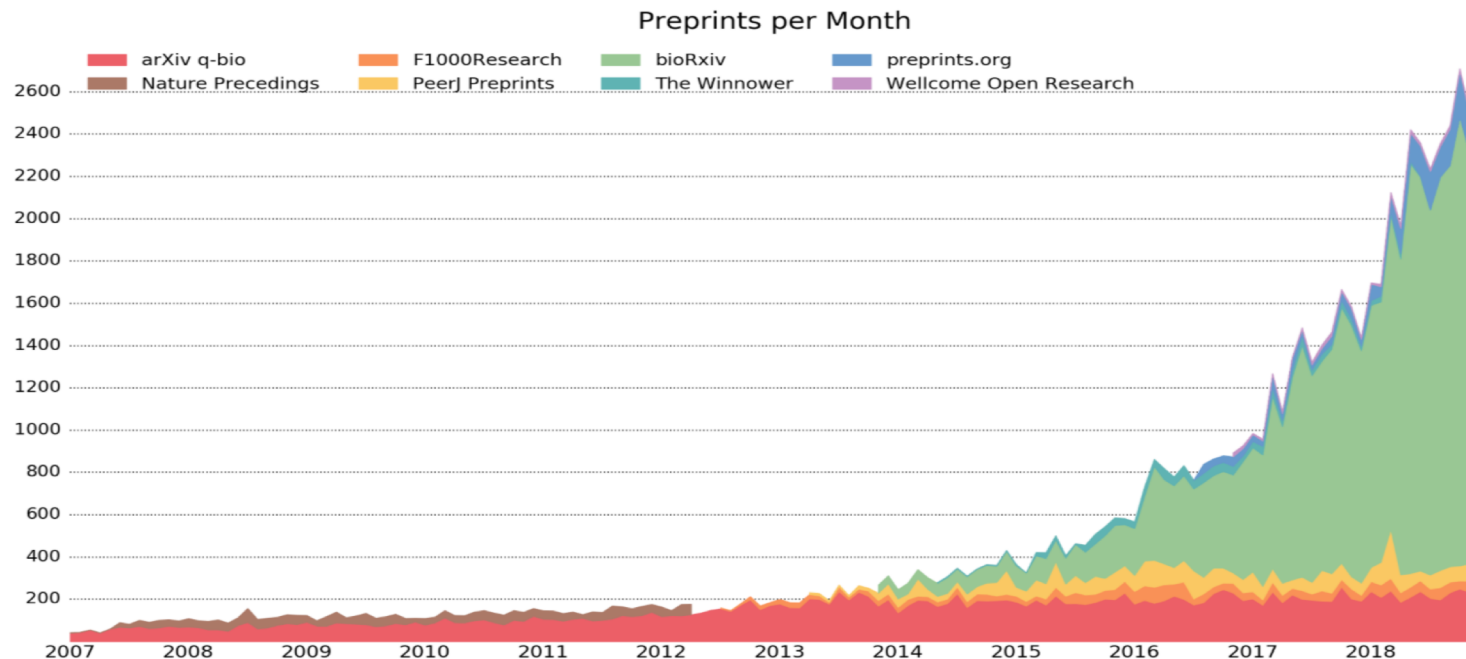
Researchers do almost everything:
write, evaluate, edit, proofread, format
→ idea of re-appropriating the publication system

<https://peercommunityin.org>, @PeerCommunityIn

PCI

Scientific publishing on the internet

- **Very low publishing costs** (arXiv: 800 000 \$ / yr / 120 000 art / yr ~ 7 \$ / art)
- **Free tools available** (eg OJS)
- **A huge rise of preprints deposit**
in biology on open archives (mostly bioRxiv in a similar way than arXiv)



bioRxiv

arXiv.org

zenodo

HAL
archives-ouvertes.fr

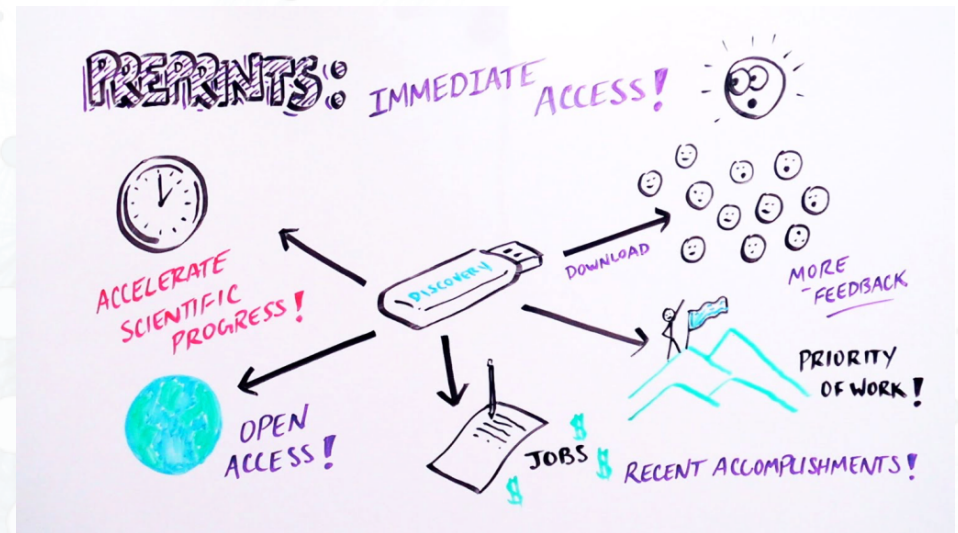
PCI

<https://peercommunityin.org>, @PeerCommunityIn

Preprints

- **Preprints are good...**

- Free for authors and readers
- Available immediately
- Archive
- Proof of anteriority
- Searchable/Findable



- **But putative quality problem...**

- No formal evaluation – no peer-review
- Everything can be found in open archives including preprints of very bad quality

- **We therefore need preprint evaluation**

- Evaluation could be disconnected from publication (open archives)
- Evaluation could be disconnected from the market
- Evaluation could be organized by the scientists themselves

A complex network diagram with numerous nodes of varying sizes and colors (light blue, white, grey) connected by thin lines, creating a dense web of connections. The nodes are distributed across the entire page, with a higher concentration in the center.

PCI project

The *Peer Community in* (PCI) project

- **Our goal**

Create several communities of researchers evaluating (through peer review) and recommending (highlighting) articles in their scientific field, e.g. *PCI Ecology*, *PCI Evolutionary Biology*, *PCI Paleontology*, etc..

- **Recommended articles**

preprints

bioRxiv

arXiv.org

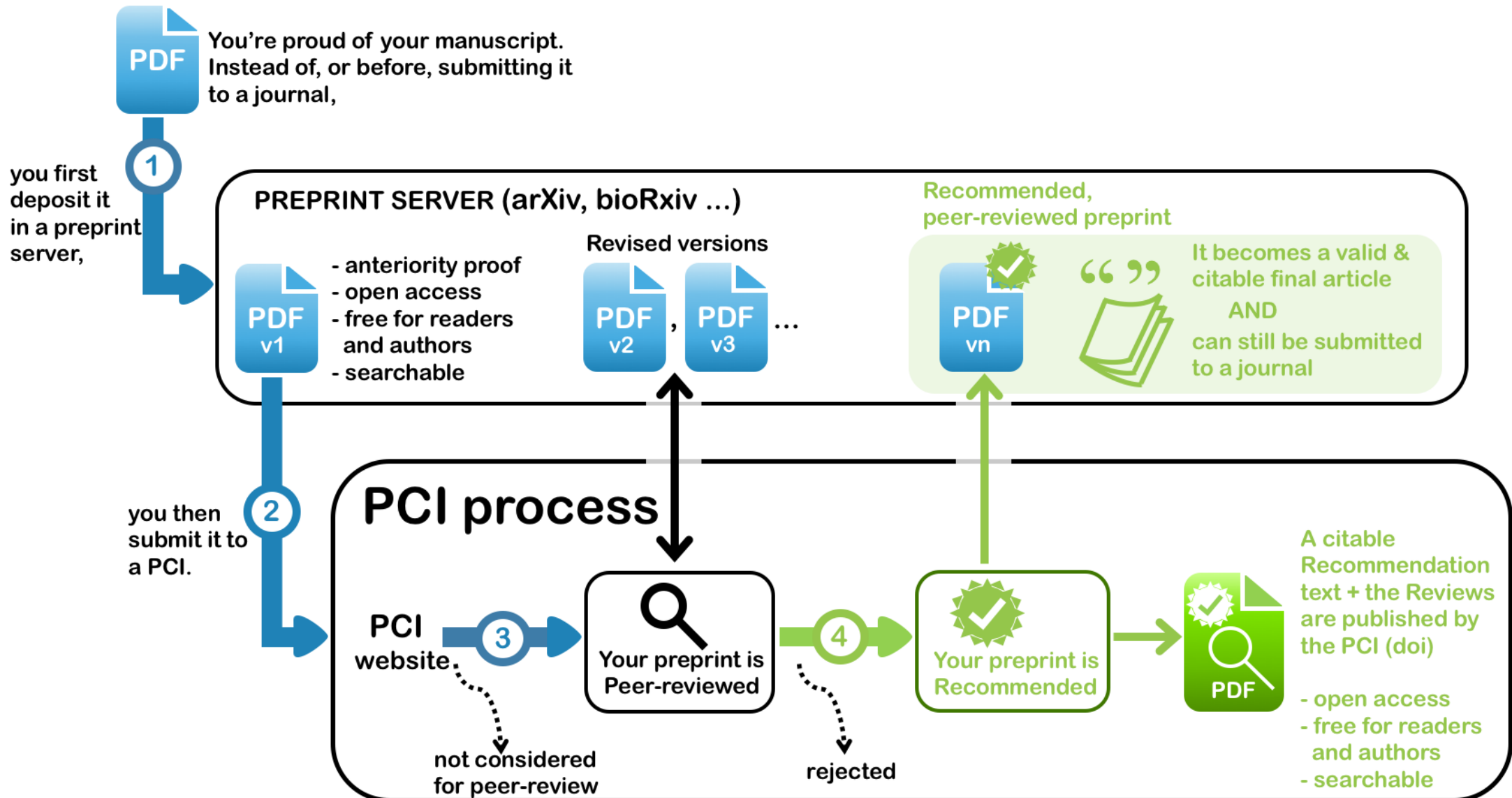
zenodo

HAL
archives-ouvertes.fr

- **Characteristics**

- Completely FREE (for authors as well as for readers)
- Publication of recommendation texts and reviews (not preprints)

How does this work?



Peer Community in ...

- **A preprint recommended by a PCI** is a valid and citable article.

Noel et al. (2018). Sexual selection and inbreeding: two efficient ways to limit the accumulation of deleterious mutations. bioRxiv 273367, ver. 3 peer-reviewed by PCI Evol Biol DOI: 10.1101/273367

- **Editors**
 - Are equivalent to associate editors in traditional journals
 - Large number
- **Referees**
 - ≥ 2 who can be chosen within or outside the PCI
- **What does PCI publish?**
 - PCI only publishes reviews and recommendation of preprint if **recommended**
- **PCI ...**
 - = electronic journal of reviews and recommendation texts

Sexual selection and inbreeding: two efficient ways to limit the accumulation of deleterious mutations

Elsa Noël, Elise Fruite, Denyss Lelaurn, Nicolas Bonel, Adeline Segard, Violette Sarda, Philippe Jarne, Patrice David

Cite as:
Noël E, Fruite E, Lelaurn D, Bonel N, Segard A, Sarda V, Jarne P, and David P. (2018). Sexual selection and inbreeding: two efficient ways to limit the accumulation of deleterious mutations. *bioRxiv* 273367. doi:10.1101/273367

Peer-reviewed and recommended by Peer Community in Evolutionary Biology

Recommendation DOI: 10.24072/pci.evolbiol.100055
Recommender: Charles F Baer

Based on reviews by: anonymous and anonymous

Inbreeding compensates for reduced sexual selection in purging deleterious mutations

Charles F Baer¹

¹ Department of Biology, University of Florida – Gainesville, USA

A recommendation of
Noël E, Fruite E, Lelaurn D, Bonel N, Segard A, Sarda V, Jarne P, and David P. Sexual selection and inbreeding: two efficient ways to limit the accumulation of deleterious mutations. *bioRxiv* 273367, ver. 3 peer-reviewed by PCI Evol Biol (2018). doi:10.1101/273367

Two evolutionary processes have been shown in theory to enhance the effects of natural selection in purging deleterious mutations from a population (here "natural" selection is defined as "selection other than sexual selection"): First, inbreeding, especially self-fertilization, facilitates the removal of deleterious recessive alleles, the effects of which are largely hidden from selection in heterozygotes when mating is random. Second, sexual selection can facilitate the removal of deleterious alleles of arbitrary dominance, with little or no demographic cost, provided that deleterious effects are greater in males than in females ("genic capture"). Inbreeding (especially selfing) and sexual selection are often negatively correlated in nature. Empirical tests of the role of sexual selection in purging deleterious mutations have been inconsistent, potentially due to the positive relationship between sexual selection and intersexual genetic conflict.

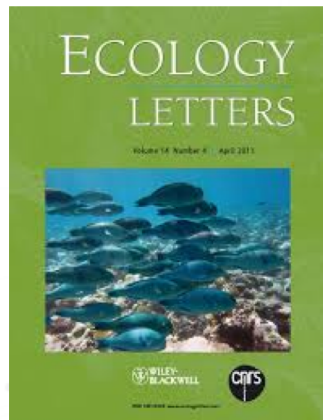
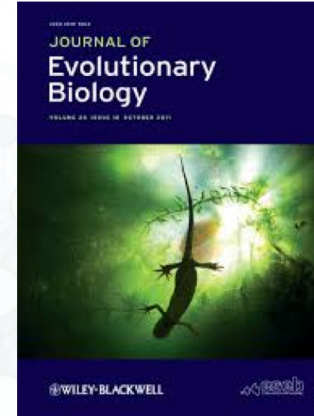
In their preprint, Noël et al. [1] report a cleverly designed, and impressively long-term, experimental evolution study designed to tease apart the relative contributions of selfing and sexual selection in purging deleterious mutations, using the self-compatible hermaphroditic snail *Physa acuta*. Hermaphroditism relieves at least some of the potential conflict between males and females because each individual expresses traits of each sex. The authors report a 50-generation (ten years) evolution experiment with four experimental treatments: Control (C), in which snails reproduced by mass mating (allowing sexual selection) and the next generation was sampled randomly from offspring in proportion to maternal family size; Male-selection (M) in which snails reproduced by mass mating but maternal family size was

PCI and journals

Trends in
Ecology & Evolution

Trends in
Plant Science

PLOS BIOLOGY



etc.

“We would value the recommendations seriously and may even use them for handling without further peer review (only peer review by handling editors)”



PCI and journals

ECOLOGY LETTERS

Letter |  Full Access

Using connectivity to identify climatic drivers of local adaptation

Stewart L. Macdonald , John Llewelyn, Ben L. Phillips

First published: 01 December 2017 | <https://doi.org/10.1111/ele.12883> | Cited by: 3

Services SFX pour l'INRA

Note: This manuscript has undergone open peer review, accessible here:
<https://evolbiol.peercommunityin.org/public/rec?id=75>

 SECTIONS

 PDF  TOOLS  SHARE

EVOLUTION

INTERNATIONAL JOURNAL OF ORGANIC EVOLUTION



ORIGINAL ARTICLE |  Full Access

Parallel pattern of differentiation at a genomic island shared between clinal and mosaic hybrid zones in a complex of cryptic seahorse lineages

Florentine Riquet , Cathy Liautard-Haag, Lucy Woodall, Carmen Bouza, Patrick Louisy, Bojan Hamer, Francisco Otero-Ferrer, Philippe Aublanc ... [See all authors](#) 

First published: 11 March 2019 | <https://doi.org/10.1111/evo.13696> | Cited by: 2

Services SFX pour l'INRA

This preprint has been reviewed and recommended by Peer Community in Evolutionary Biology (<https://doi.org/10.24072/pci.evolbiol.100056>).

 SECTIONS

 PDF  TOOLS  SHARE

Peer Community In Evolutionary Biology

Free and transparent preprint and postprint recommendations in evolutionary biology

SUBMIT A PREPRINT LOG IN or REGISTER

The PCI project is supported by



Latest recommendations

2019-06-11



A bird's white-eye view on neosex chromosome evolution
 Thibault Leroy, Yoann Anselmetti, Marie-Ka Tilak, Sèverine Bérard, Laura Csukonyi, Maëva Gabrielli, Céline Scornavacca, Borja Milá, Christophe Thébaud, Benoit Nabholz
[10.1101/505610](https://doi.org/10.1101/505610)

Recommended by [Kateryna Makova](#) based on reviews by [Gabriel Marais](#), [Melissa Wilson](#) and 1 anonymous reviewer

Young sex chromosomes discovered in white-eye birds

Recent advances in next-generation sequencing are allowing us to uncover the evolution of sex chromosomes in non-model organisms. This study [1] represents an example of this application to birds of two Sylvioidea species from the genus *Zosterops* (commonly known as white-eyes). The study is exemplary in the amount and types of data generated and in the thoroughness of the analysis applied. Both male and female genomes were sequenced to allow the authors to identify sex-chromosome specific scf...

MORE

2019-06-06



Multi-model inference of non-random mating from an information theoretic approach
 Antonio Carvajal-Rodríguez
[10.1101/305730](https://doi.org/10.1101/305730)

Recommended by [Sara Magalhaes](#) and [Alexandre Courtiol](#) based on reviews by [Alexandre Courtiol](#) and 2 anonymous reviewers

Tell me who you mate with, I'll tell you what's going on

The study of sexual selection goes as far as Darwin himself. Since then, elaborate theories concerning both intra- and inter-sexual sexual have been developed, and elegant experiments have been designed to test this body of theory. It may thus come as a surprise that the community is still debating on the correct way to measure simple components of sexual selection, such as the Bateman gradient (i.e., the covariance between the number of matings and the number of offspring)[1,2], or to quantify ...

MORE

2019-06-04



Thermal regimes, but not mean temperatures, drive patterns of rapid climate adaptation at a continent-scale: evidence from the introduced European earwig across North America
 Jean-Claude Tourneur, Joël Meunier
[10.1101/550319](https://doi.org/10.1101/550319)



Tweets by @PCIEvolBiol

PeerComInEvolBiol Retweeted

Yannick Wurm @yannick_

#Disrupt science publishing! Great overview of @PCIEvolBiol and the @PeerCommunityIn approach by @ThomasGuillem and @BourguetD at @QM_SBCS peercommunityin.org

12h

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An article by @PeerCommunityIn in @anglejournal Taking back control over academic publishing How Plan S can improve scholarly communication by avoiding paid journalstiny.cc/jx4t8y

Taki... To b... angl...

22h

PeerComInEvolBiol Retweeted

Mattias Björnmalm @bearore

New article on the future of scholarly publishing just out in @anglejournal! Written by the founders of the @PeerCommunityIn

Share



MAGALHAES Sara



- , CE3C: Centre for Ecology, Evolution and Environmental Changes, Lisboa, Portugal
- Adaptation, Evolutionary Ecology, Experimental Evolution, Reproduction and Sex
- **recommender**

3 recommendations

2019-06-06



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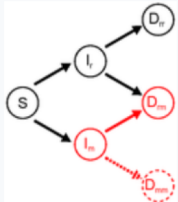
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MORE

2017-12-18



Co-evolution of virulence and immunosuppression in multiple infections

Tsukushi Kamiya, Nicole Mideo, Samuel Alizon

<https://www.biorxiv.org/content/early/2017/12/15/149211.full.pdf>

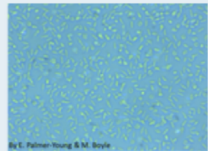
Recommended by [Sara Magalhaes](#) based on reviews by 2 anonymous reviewers

Two parasites, virulence and immunosuppression: how does the whole thing evolve?

How parasite virulence evolves is arguably the most important question in both the applied and fundamental study of host-parasite interactions. Typically, this research area has been progressing through the formalization of the problem via mathematical modelling. This is because the question is a complex one, as virulence is both affected and affects several aspects of the host-parasite interaction. Moreover, the evolution of virulence is a problem in which ecology (epidemiology) and evolution (...)

MORE

2016-12-14



Evolution of resistance to single and combined floral phytochemicals by a bumble bee parasite

Palmer-Young EC, Sadd BM, Adler LS

[10.1111/jeb.13002](https://doi.org/10.1111/jeb.13002)

Recommended by [Alison Duncan](#) and [Sara Magalhaes](#)

The medicinal value of phytochemicals is hindered by pathogen evolution of resistance

As plants cannot run from their enemies, natural selection has favoured the evolution of diverse chemical compounds (phytochemicals) to protect them against herbivores and pathogens. This provides an opportunity for plant feeders to exploit these compounds to combat their own enemies. Indeed, it is widely known that herbivores use such compounds as protection against predators [1]. Recently, this reasoning has been extended to pathogens, and elegant studies have shown that some herbivores feed o...

MORE



RESEARCH ARTICLE



Thermal regimes, but not mean temperatures, drive patterns of rapid climate adaptation at a continent-scale: evidence from the introduced European earwig across North America

This article has been peer-reviewed and recommended by: *Peer Community in Evolutionary Biology* (DOI: 10.24072/pci.evolbiol.100074)

Jean-Claude Tourneur¹, Joël Meunier²

¹ Département des Sciences biologiques, Université du Québec à Montréal 141, Avenue du Président-Kennedy, Montréal, Québec, H2X 1Y4, Canada.

² Institut de Recherche sur la Biologie de l'Insecte (IRBI), UMR 7261, CNRS, University of Tours, Tours, France.

Cite as: Tourneur JC, and Meunier J. Thermal regimes, but not mean temperatures, drive patterns of rapid climate adaptation at a continent-scale: evidence from the introduced European earwig across North America. bioRxiv 550319, ver. 4. Peer-reviewed and recommended by PCI Evolutionary Biology (2019). DOI: 10.24072/pci.evolbiol.100074

Posted: 3rd June 2019

Recommender:
Fabien Aubret

Reviewers:
Eric Gangloff and Ben Phillips

Correspondence:
joel.meunier@univ-tours.fr

ABSTRACT

The recent development of human societies has led to major, rapid and often inexorable changes in the environment of most animal species. Over the last decades, a growing number of studies formulated predictions on the modalities of animal adaptation to climate change, questioning how and at what speed animals should adapt to such changes, discussing the levels of risks imposed by changes in the mean and/or variance of temperatures on animal performance, and exploring the underlying roles of phenotypic plasticity and genetic inheritance. These fundamental predictions, however, remain poorly tested using field data. Here, we tested these predictions using a unique continental-scale data set in the European earwig *Forficula auricularia* L, a univoltine insect introduced in North America one century ago. We conducted a common garden experiment, in which we measured 13 life-history traits in 4158 field-sampled earwigs originating from 19 populations across North America. Our results first demonstrate that in less than 100 generations, this species modified 10 of the 13 measured life-history traits in response to the encountered thermal regimes, defined as a variation of temperatures between seasons or months (here winter-summer and autumn-spring temperatures). We found, however, no response to the overall mean monthly temperatures of the invaded locations. Furthermore, our use of a common garden setup reveals that the observed changes in earwigs' life-history traits are not mere plastic responses to their current environment, but are either due to their genetic background and/or to the environmental conditions they experienced during early life development. Overall, these findings provide continent-scale support to the claims that adaptation to thermal changes occurs quickly, even in insects with long life cycles, and emphasize the importance of thermal regimes over mean population temperatures in climate adaptation.

Keywords: Temperature, Adaptation, Reproductive strategy, Climate change, Invasion, Dermaptera

How to find recommended papers?

The screenshot shows the Europe PMC search interface. The browser address bar displays the URL: [https://europepmc.org/search?query=\(LABS_PUBS:"1826"\)](https://europepmc.org/search?query=(LABS_PUBS:). The search bar contains the query "(LABS_PUBS:"1826")" and a "Search" button. Below the search bar, there is a suggestion: "E.g. "breast cancer" HER2 Smith J".

The "Results" section shows 1 - 25 of 58 results. The results are sorted by Relevance. The first two results are preprints:

- [When higher carrying capacities lead to faster propagation](#) Preprint
Haond M, Morel-Journel T, Lombaert E, Vercken E, Mailleret L, Roques L
bioRxiv [25 Apr 2018]
Cited: 0 times (PPR:PPR13986)
- [Palaeobiological inferences based on long bone epiphyseal and diaphyseal structure - the forelimb of xenarthrans \(Mammalia\)](#) Preprint
Amson E, Nyakatura JA
bioRxiv [13 May 2018]
Cited: 0 times (PPR:PPR12894)

On the right side, there are filters for "Content types" and "Date":

- Content types:
 - [Free full text \(16\)](#)
 - [Open access \(11\)](#)
 - [Preprints \(34\)](#)
- Date:
 - [2018 \(4\)](#)
 - [2017 \(33\)](#)
 - [2016 \(18\)](#)

<https://peercommunityin.org>, @PeerCommunityIn

PCI already fonctionnal

January 2017



Denis Bourguet, Benoit Facon &
Thomas Guillemaud

January 2018



Jeremy Anquetin & Guillaume Billet



François Massol, Tim Couslon,
Dominique Gravel & Cyrille Violle

June 2019



Rafael Muñoz-Tamayo



Denis Bourguet, Benoit Facon &
Thomas Guillemaud

 **175 submissions ; 75 recommandations of preprints**



Future PCIs

Already validated (opening end 2019 – start 2020)

Peer Community in **Genomics**

(Denis Tagu, Pierre Capy, Jean-François Flot)



Peer Community in **Registered Reports**

(Corina Logan, Chris Chambers, Zoltan Dienes)

Peer Community in **Circuit NeuroScience**

(Mahesh Karnani, Marion Mercier, Vincent Magloire)



Peer Community in **Mathematical and Computation Biology**

(Amaury Lambert, Céline Scornavacca, Eric Tannier)

Peer Community in **Forest & Wood Sciences**

(Erwin Dreyer)

In negotiation

PCI Prehistoric Archaeology

PCI Ecotoxicology

PCI Meta-research



PCI Evolutionary Biology

- Launch of the PCI Evol Biol website in January 2017
~ 2000 unique visitors /month

- # editors
 - At launch = 162
 - Currently (November 2018) = 413



Peer Community In
Evolutionary
Biology

- 122 submissions of preprints
 - 57 published recommendations of preprints
 - 24 preprints in evaluation
 - 39 not considered, cancelled or rejected
- Median time between submission and first editorial decision = 46 days

PCI Ecology

PCI Paleontology



Peer Community In

Ecology Free and transparent preprint and postprint
recommendations in ecology

- Launch of the website in January 2018
- 342 recommenders/editors
- 72 preprint submissions
- 31 recommendations



Peer Community In

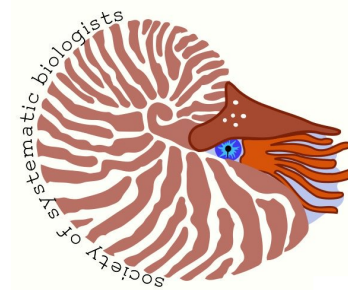
Paleontology Free and transparent preprint
peer-review in paleontology

- Launch of the website in January 2018
- 80 recommenders/editors
- 4 submissions
- 2 recommendation

A complex network diagram with numerous nodes of varying sizes and colors (light blue, white, grey) connected by thin lines, forming a dense web. The nodes are distributed across the entire page, with a higher concentration in the center and bottom.

Supports of Institutions

Scientific societies



Institutions



MAX-PLANCK INSTITUTE FOR EVOLUTIONARY BIOLOGY



École Pratique des Hautes Études



Doctoral Schools

ED Sciences de la Vie et de la Santé – Univ. Nice, France

ED SEVAB – Univ. Toulouse, France

ED Science de l'Environnement – Univ Aix Marseille, France

ED Gaïa – Univ Montpellier, France

ED Sciences, Technologies et Santé – Univ. La Réunion, France

ED Écologie, Géosciences, Agronomie, ALimentation – Univ. Rennes, France

ED Energie et Environnement – Univ. Perpignan, France

ED Sciences de la Mer et du Littoral – Univ. Brest, Nantes, , France

ED Theodore Monod – Univ Poitiers, France

ED ABIES – Univ. Saclay, France

ED Environnements-Santé – Univ. Bourgogne Franche-Comté, France

ED E2M2 – Univ Lyon, France

ED Sciences de la Nature et de l'Homme : écologie & évolution – MNHN, France

ED Sciences du végétal : du gène à l'écosystème – Univ. Orsay, France

ED SMRE – Univ. Lille, France

ED Structure et Dynamique des Systèmes Vivants – Univ. Saclay, France

Evaluation committees

Finland : Recognition of PCI Evol Biol

Norway: evaluation in progress

France: Recognition of PCI and Public Motion of Ecology and evolution committees of

-CNRS, sections 29-30-52

-Universities, CNU67

-Inra, CSS BPE

-IRD, CSS3

-Prise en compte dans Hceres STU (livret guide)

« During all its work (evaluations, promotions, competitions...), Section 29 [of the National Committee of the Scientific Research] will consider the articles recommended by PCI Evol Biol, PCI Ecology and PCI Paleo in the same way as an article published in an indexed scientific journal. This measure will be extended to any other variations of PCI that may emerge.' »



A complex network graph with numerous nodes and edges, rendered in light blue and white, filling the background. The nodes vary in size, and the edges are thin lines connecting them. The overall structure is dense and interconnected.

Thanks!
