Peer Community In...

Denis Bourguet
Benoit Facon
Thomas Guillemaud

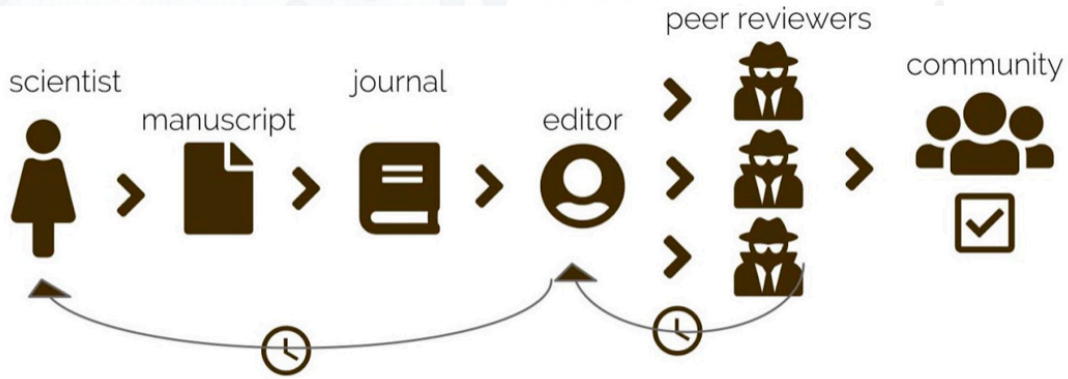
A free recommendation process of unpublished scientific papers based on peer reviews

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

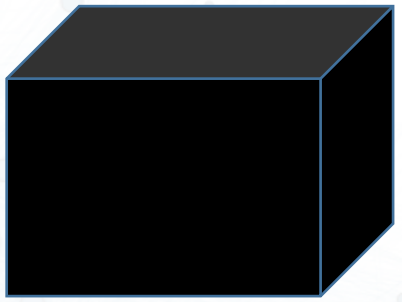


Tennant et al. *Publications* **2019**, *7*(2), 34

- **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

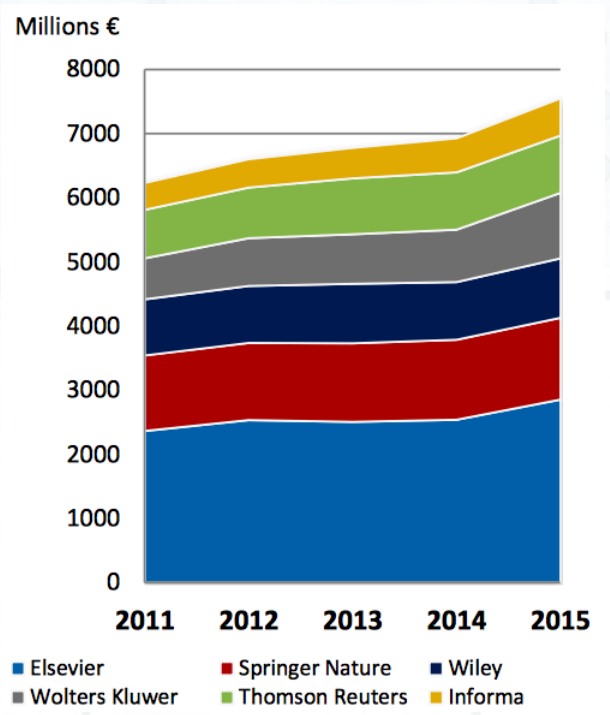
  + Researchers are evaluated on their ability to publish

  = Conjunction of interest between researchers and publishers

  → snowball effect, should decrease quality

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

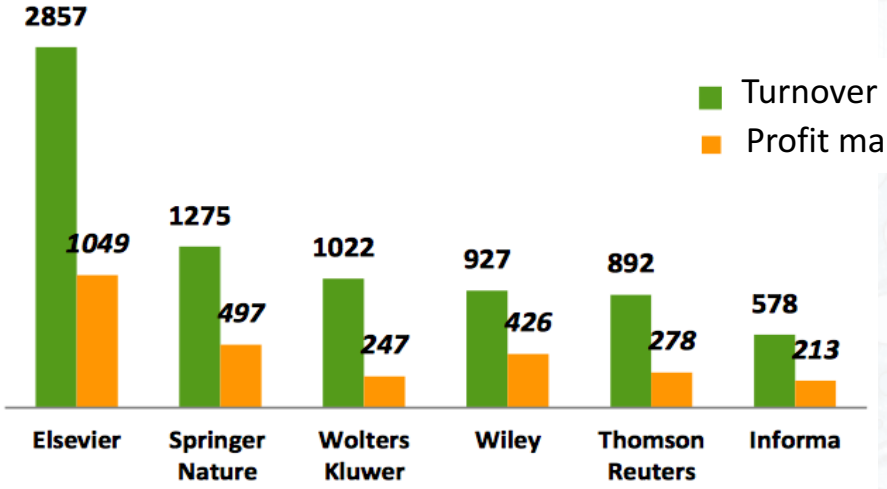


Sources: Eprist, 2018 STM report

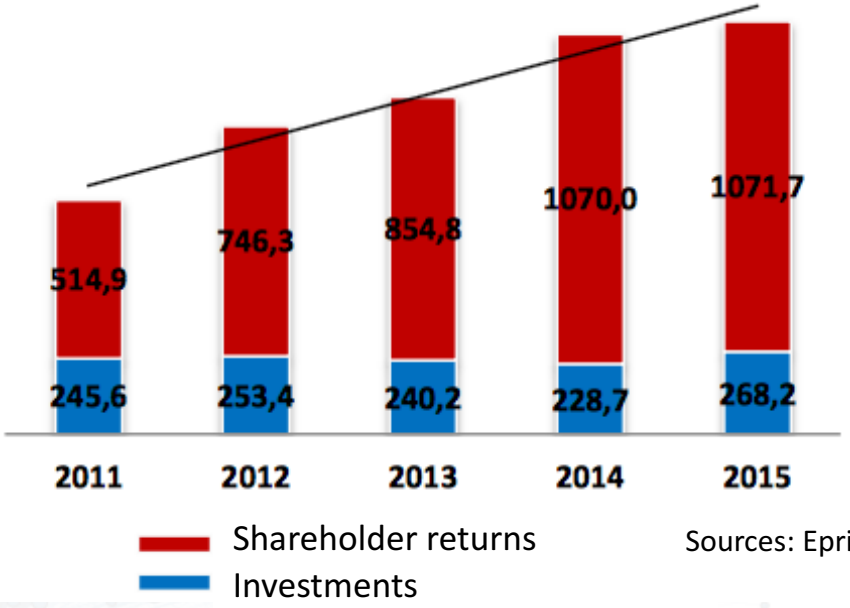
Non-standard profit margins

Millions €

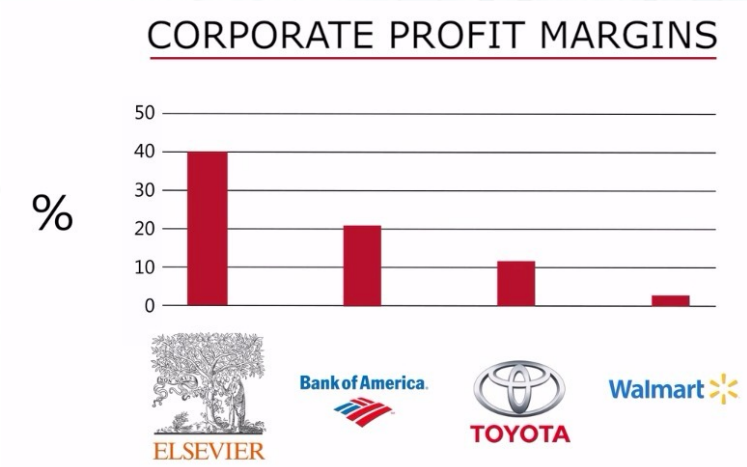
Mean profit margin = **38%**



Sources: Eprist



Sources: Eprist

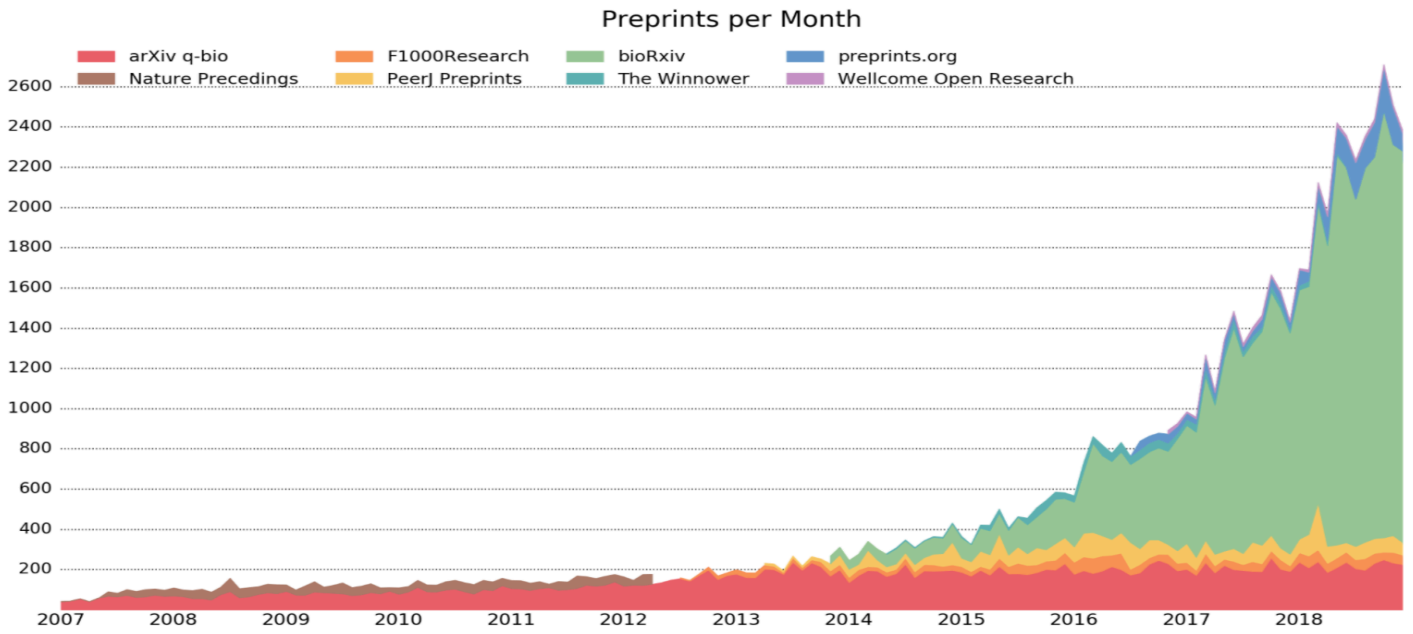


Source: paywall, the moovie

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

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 arχiv)



bioRχiv

arXiv.org

zenodo

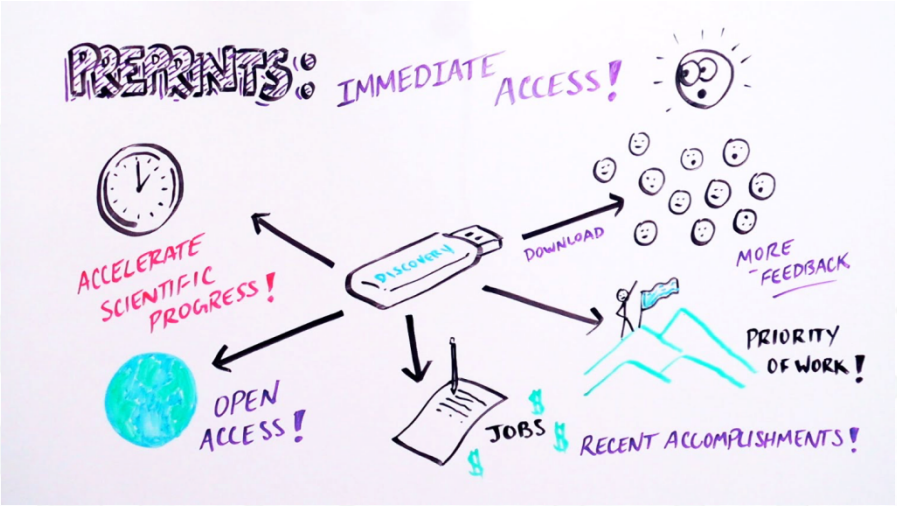
HAL archives-ouvertes.fr

https://peercommunityin.org, @PeerCommunityIn

PCI

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

PCI project

The *Peer Community in* (PCI) project

- **Our goal**

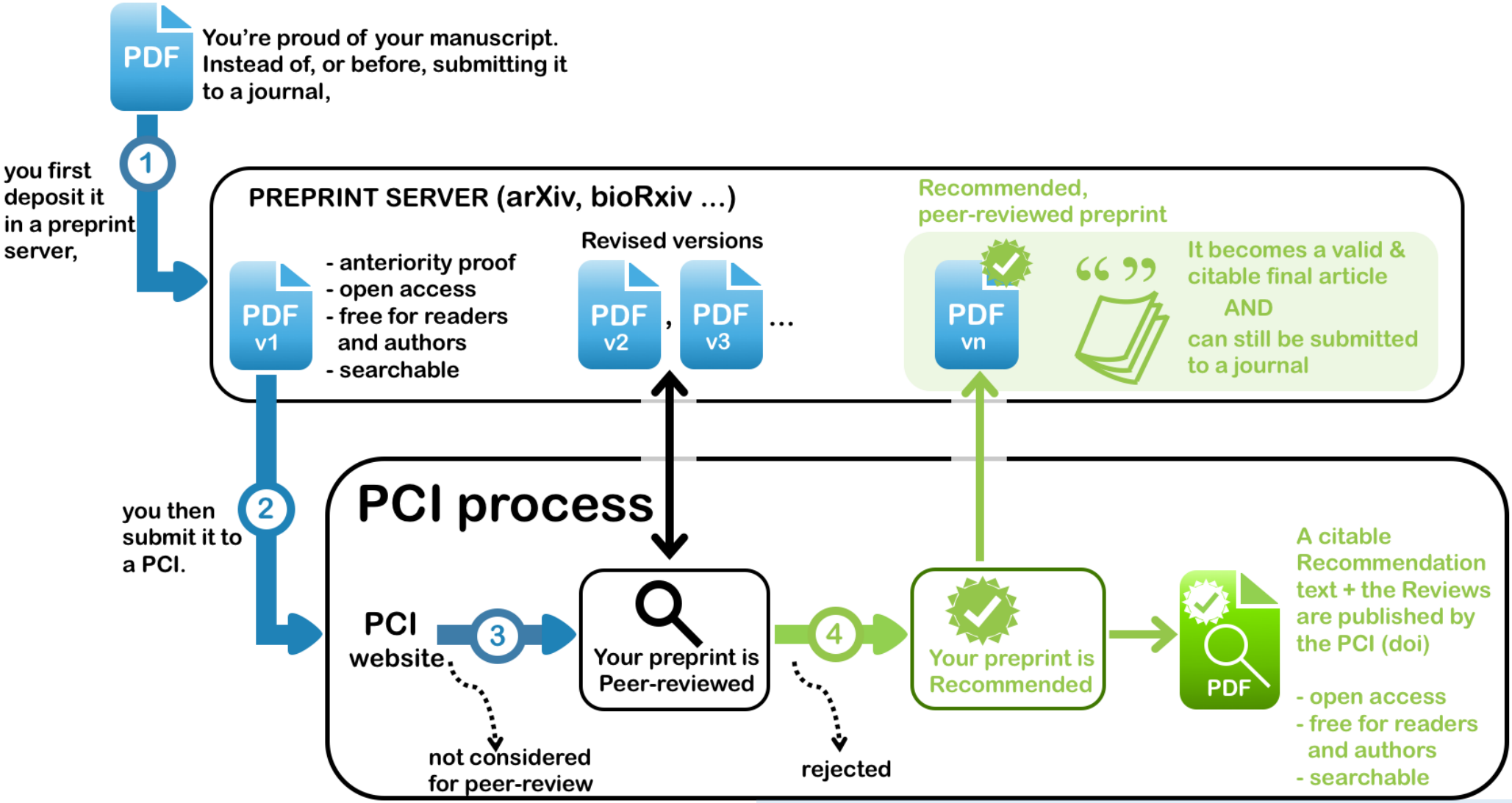
  Create several communities of researchers evaluating (through peer review) and recommending (highlighting) articles in their scientific field, e.g. *PCI Ecology*, *PCI Evolutionary Biology*, *PCI Paleontology*, etc..

- **Recommended articles**

  preprints bioRχiv 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?



https://peercommunityin.org, @PeerCommunityIn

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


Peer Community In
Evolutionary Biology

Open Access
RESEARCH ARTICLE

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

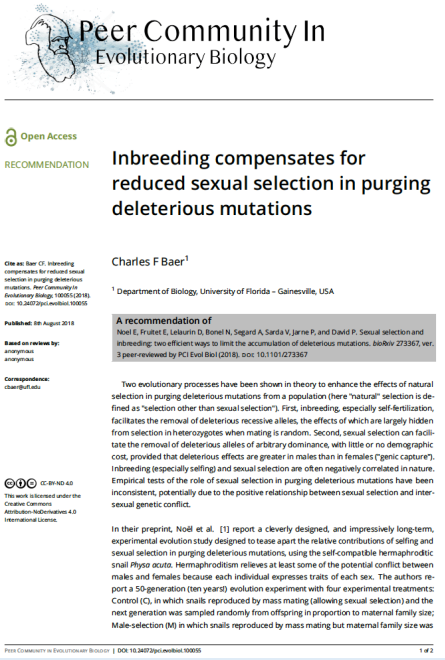
Elsa Noël, Elise Fruitet, Denyss Lelaurin, Nicolas Bonel, Adeline Segard, Violette Sarda, Philippe Jarne, Patrice David

Cite as:
Noël E, Fruitet E, Lelaurin 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


Peer Community In
Evolutionary Biology

Open Access
RECOMMENDATION

Inbreeding compensates for reduced sexual selection in purging deleterious mutations

Charles F Baer[1]

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

A recommendation of
Noël E, Fruitet E, Lelaurin 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

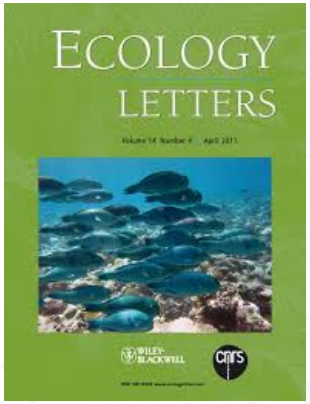
https://peercommunityin.org, @PeerCommunityIn

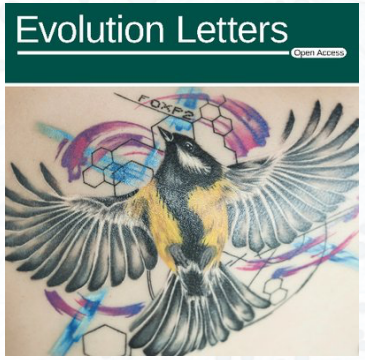
PCI and journals

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

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

SSE
SOCIETY for the STUDY of 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

PCI

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

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 scaf...

MORE

2019-06-06

Multi-model inference of non-random mating from an information theoretic approach
Antonio Carvajal-Rodríguez
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

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

PeerComInEvolI @PCIEvolBiol
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

Multi-model inference of non-random mating from an information theoretic approach

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10.1101/305730

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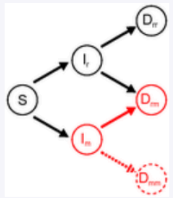
MORE

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

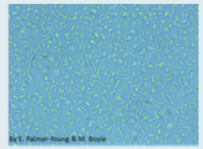
Recommended by Sara Magalhaes based on reviews by 2 anonymous reviewers

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

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

Peer Community In Evolutionary Biology

RESEARCH ARTICLE

Open Access
Open Data
Open Code
Open Peer-Review

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[1], Joël Meunier[2]

[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.

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

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

PCI

PCI already functionnal

January 2017

Peer Community In
Evolutionary Biology

Denis Bourguet, Benoit Facon & Thomas Guillemaud

January 2018

Peer Community In
Paleontology
Free and transparent preprint peer-review in paleontology

Jeremy Anquetin & Guillaume Billet

Peer Community In
Ecology
Free and transparent preprint and postprint recommendations in ecology

François Massol, Tim Couslon, Dominique Gravel & Cyrille Violle

June 2019

Peer Community In
Animal Science
Free and transparent preprint and postprint recommendations in animal science

Rafael Muñoz-Tamayo

Peer Community In
Entomology

Denis Bourguet, Benoit Facon & Thomas Guillemaud

199 submissions ; **92 recommandations** of preprints

PCI

Future PCIs

Already validated (opening end 2019 – start 2020)

Peer Community in **Genomics**
(Denis Tagu, Pierre Capy, Jean-François Flot)

Peer Community In
Genomics
Free and transparent preprint and postprint recommendations in genomics

Peer Community in **Circuit NeuroScience**
(Mahesh Karnani, Marion Mercier, Vincent Magloire)

Peer Community In
Circuit Neuroscience

Peer Community in **Forest & Wood Sciences**
(Erwin Dreyer)

Peer Community In
Forest & Wood Sciences
Free and transparent preprint and postprint recommendations in forest & wood sciences

Peer Community in **Mathematical and Computation Biology**
(Amaury Lambert, Céline Scornavacca, Eric Tannier)

Peer Community in **Registered Reports**
(Corina Logan, Chris Chambers, Zoltan Dienes)

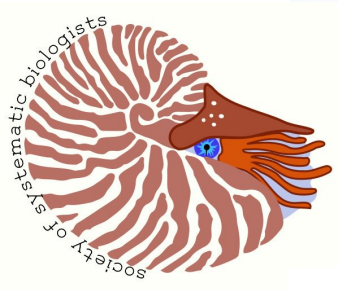
In negociation

PCI Prehistoric Archaelogy
PCI Ecotoxicology
PCI Meta-research

PCI

Supports of Institutions

Scientific societies



Institutions

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

PCI

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.' »

Thanks!