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Re-engineering the functions of journals

Mark Patterson
Director of Publishing, PLoS

CERN Workshop on Innovations in Scholarly Communication (OAI7)

June 23, 2011

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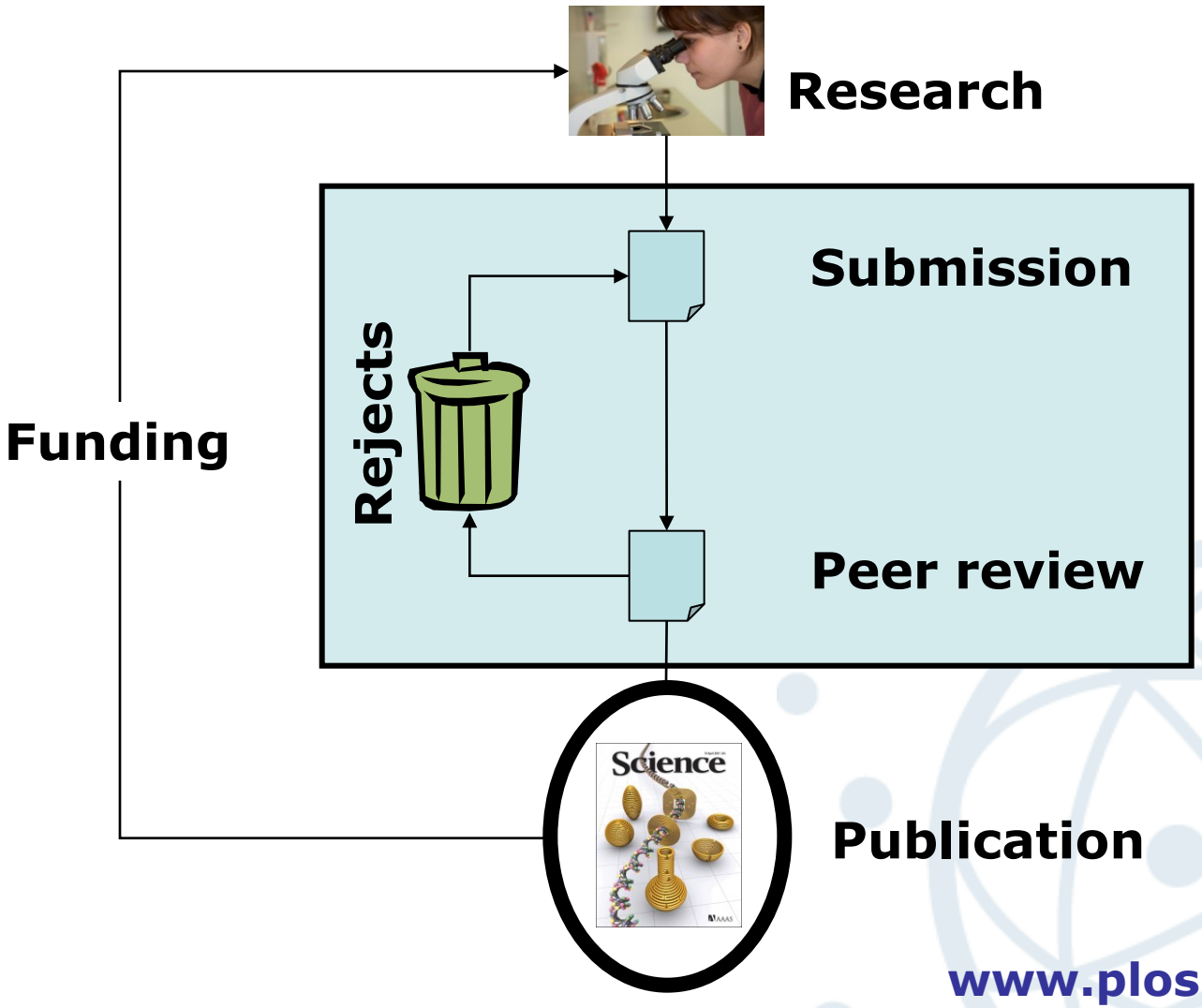

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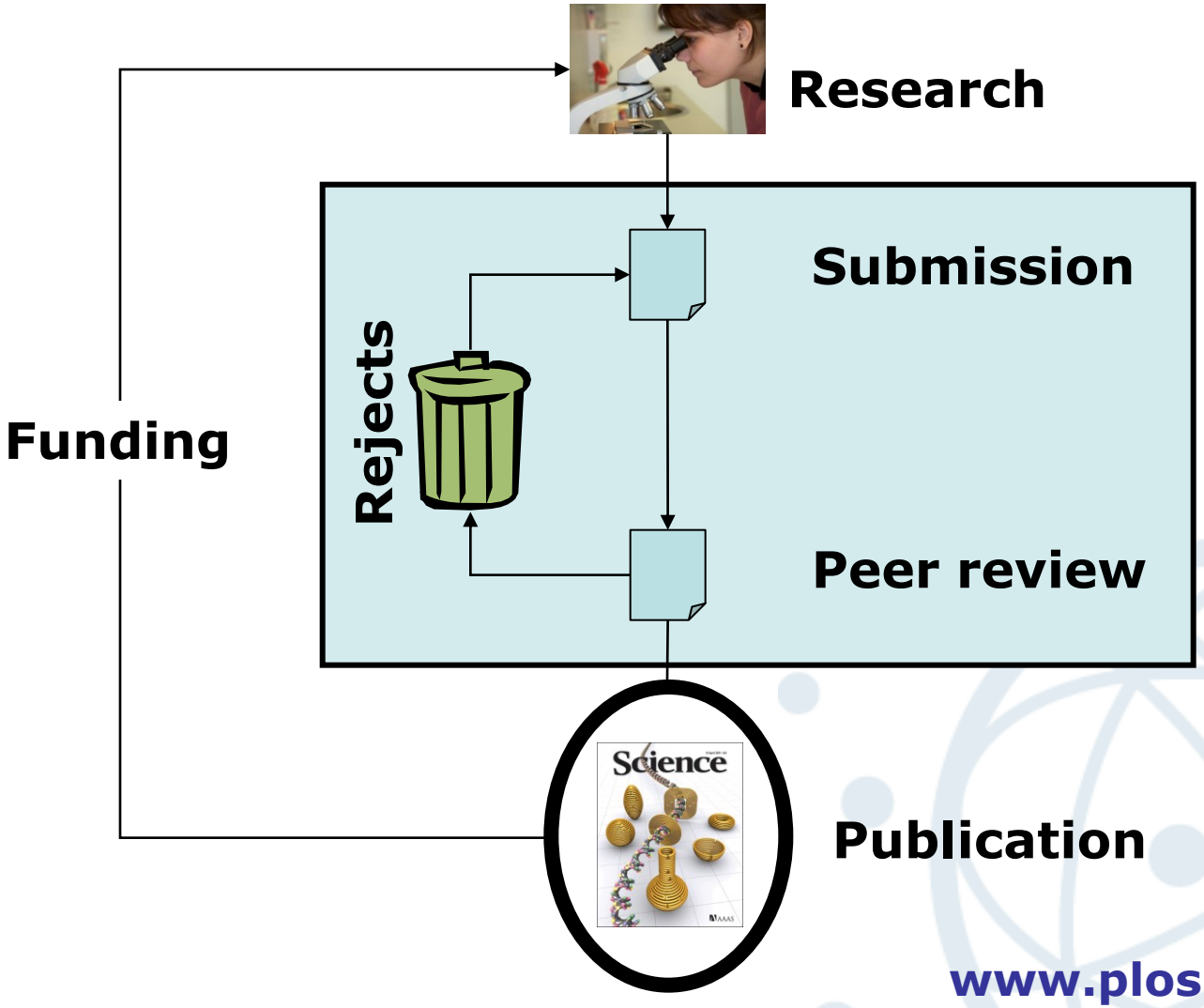

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Functions to be re-engineered

- Dissemination
  - Open access
  - Growth and progress
- Organization of content
  - Decoupling technical and impact assessment

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Re-engineering dissemination

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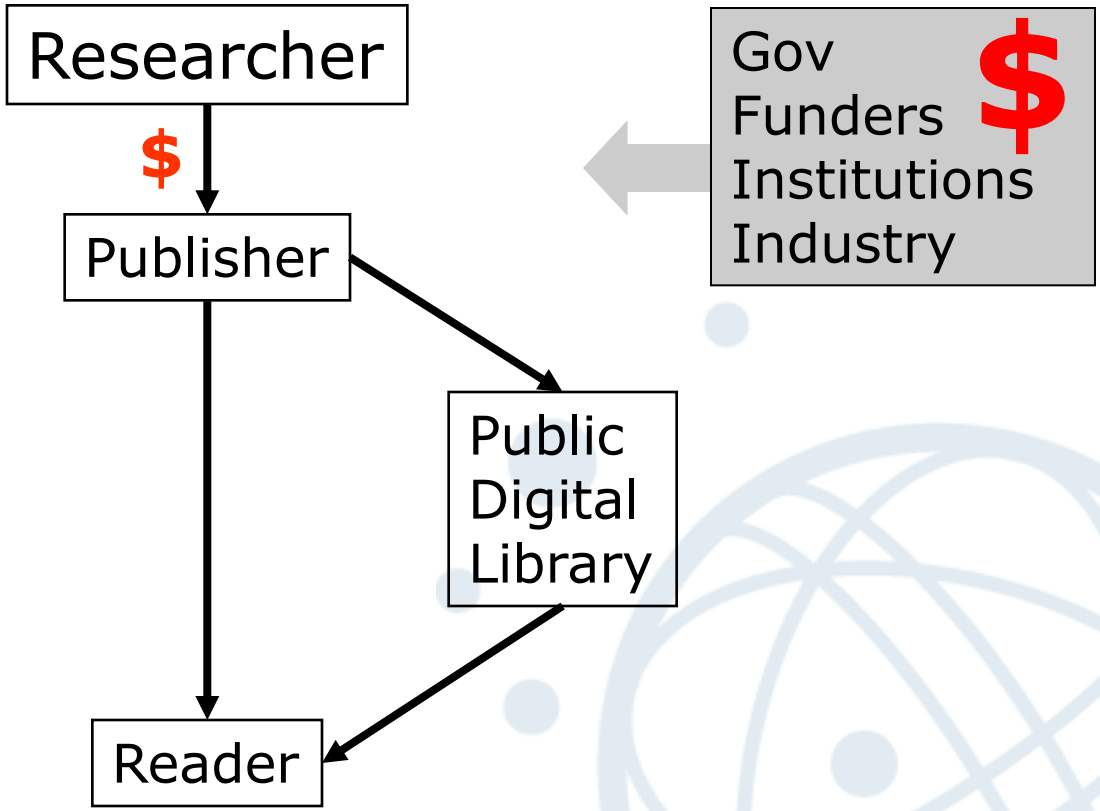
Open access journals

Publishing is the final step in a research project



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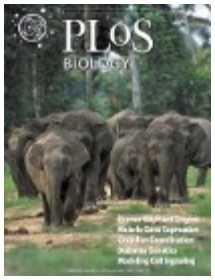

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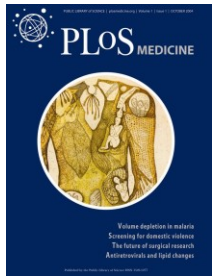

PLoS Community Journals

June-September, 2005

October, 2007

$2250

$1350

PLoS ONE
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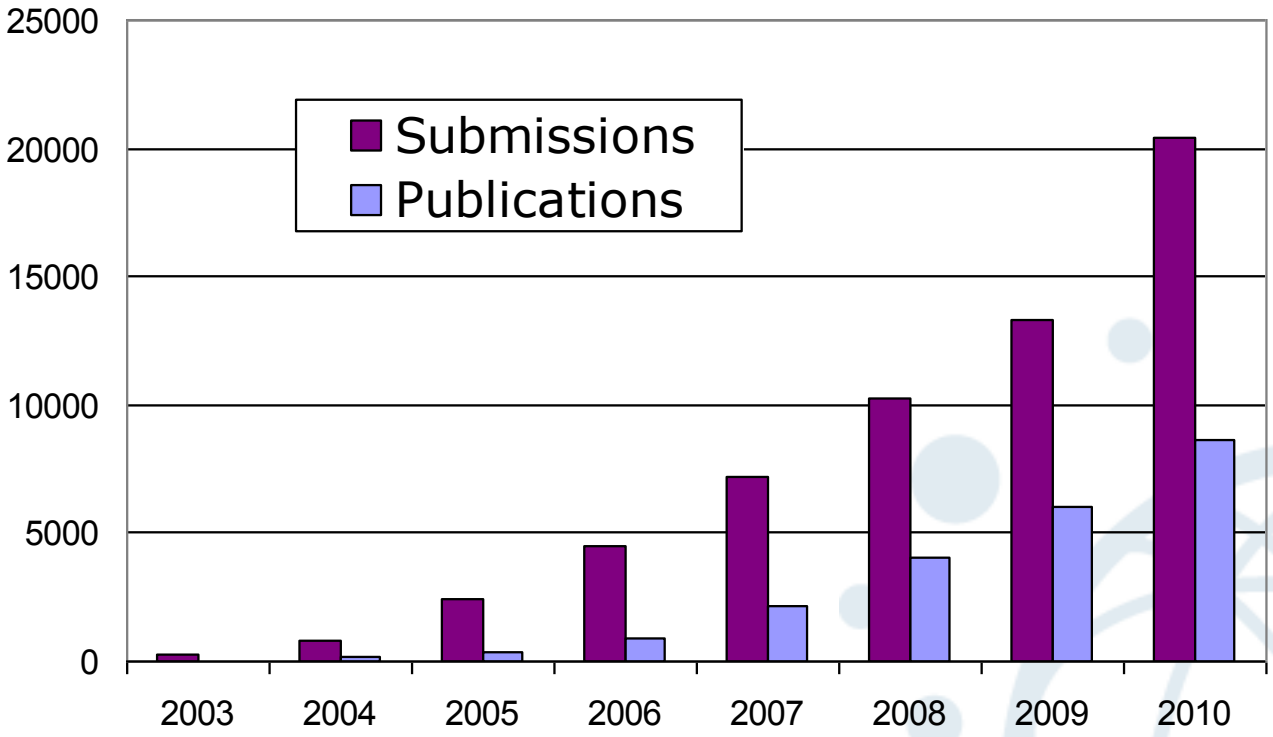
Growth in submissions and publications



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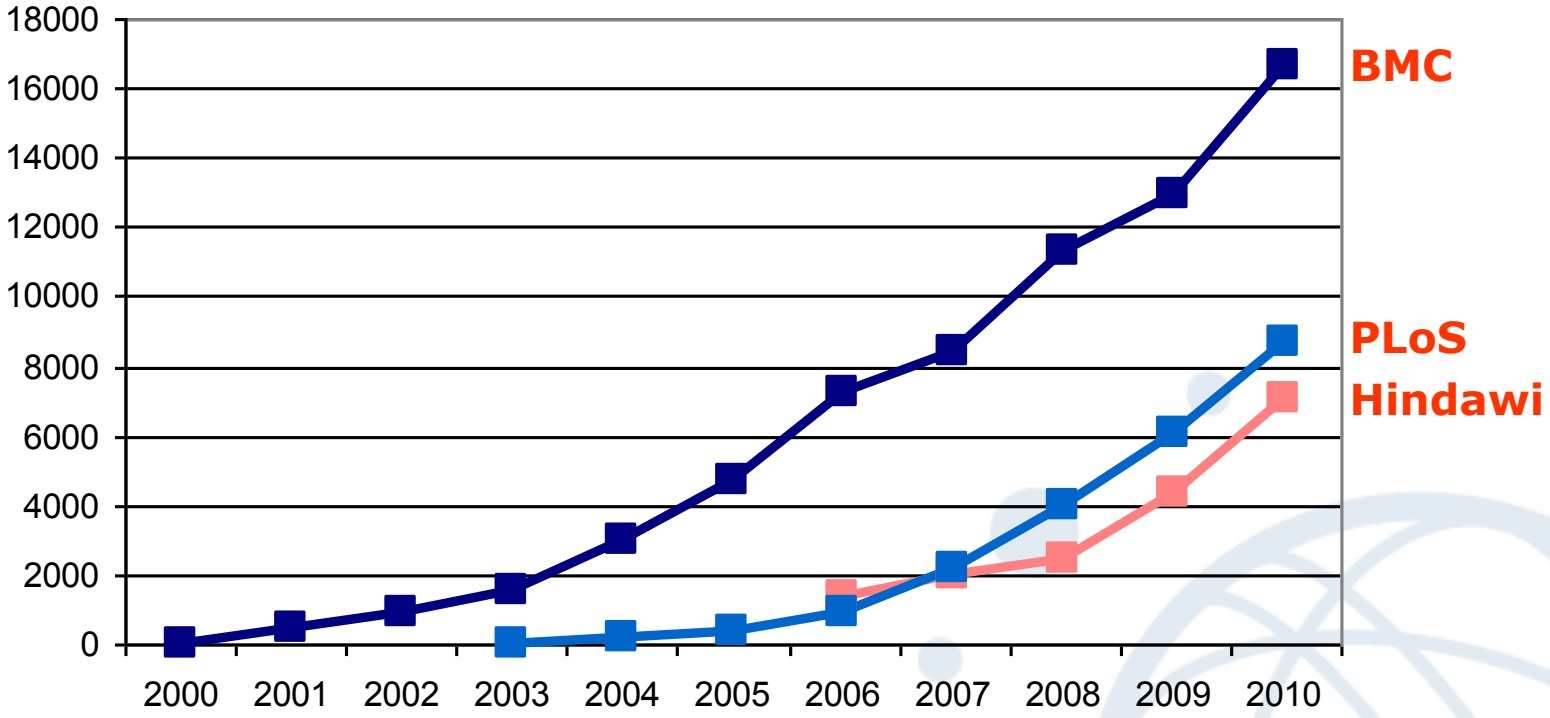
Growth in three OA publishers



Thanks to Matt Cockerill (BMC) and Paul Peters (Hindawi)

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RESEARCH ARTICLE OPEN ACCESS

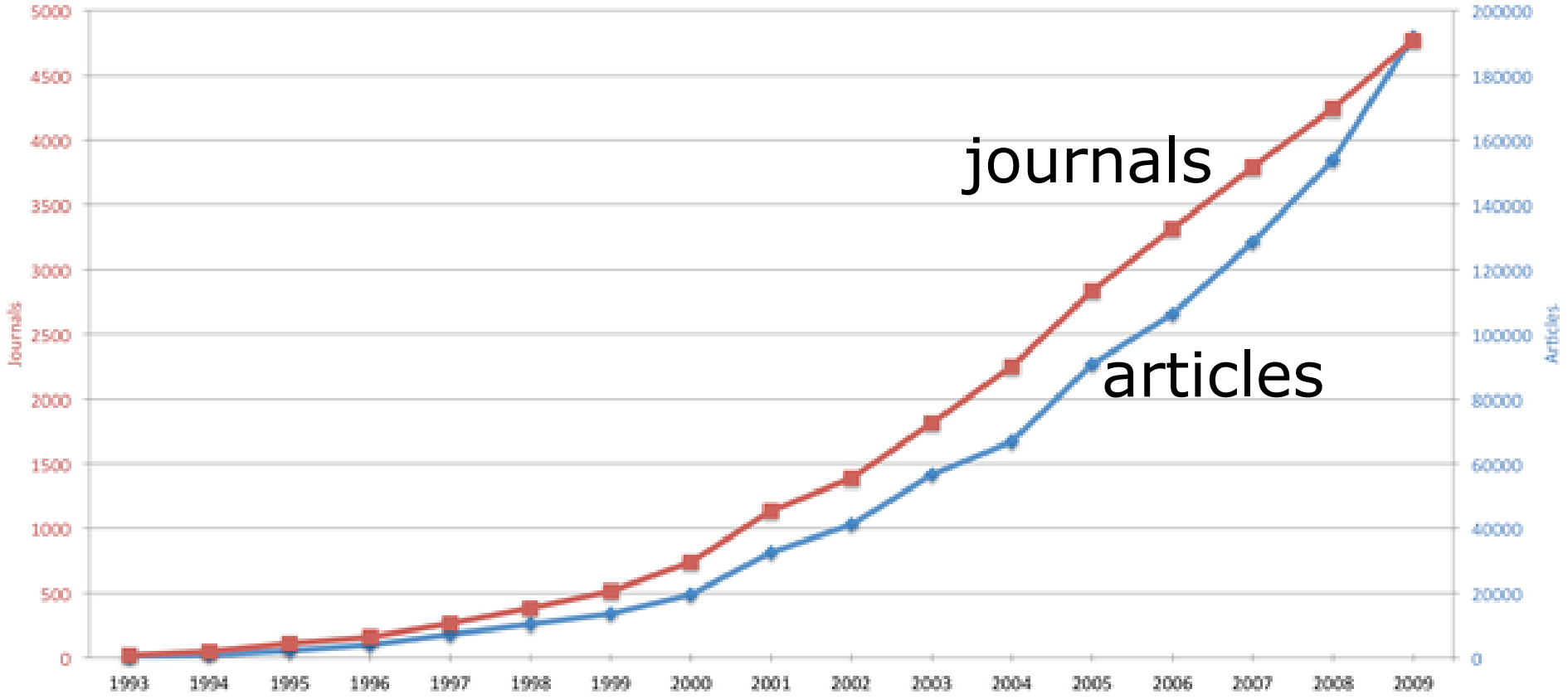
The Development of Open Access Journal Publishing from 1993 to 2009

Mikael Laakso[1*], Patrik Welling[1], Helena Bukvova[2], Linus Nyman[1], Bo-Christer Björk[1], Turid Hedlund[1]

1 HANKEN School of Economics, Helsinki, Finland, **2** Technische Universität Dresden, Dresden, Germany

Abstract Top

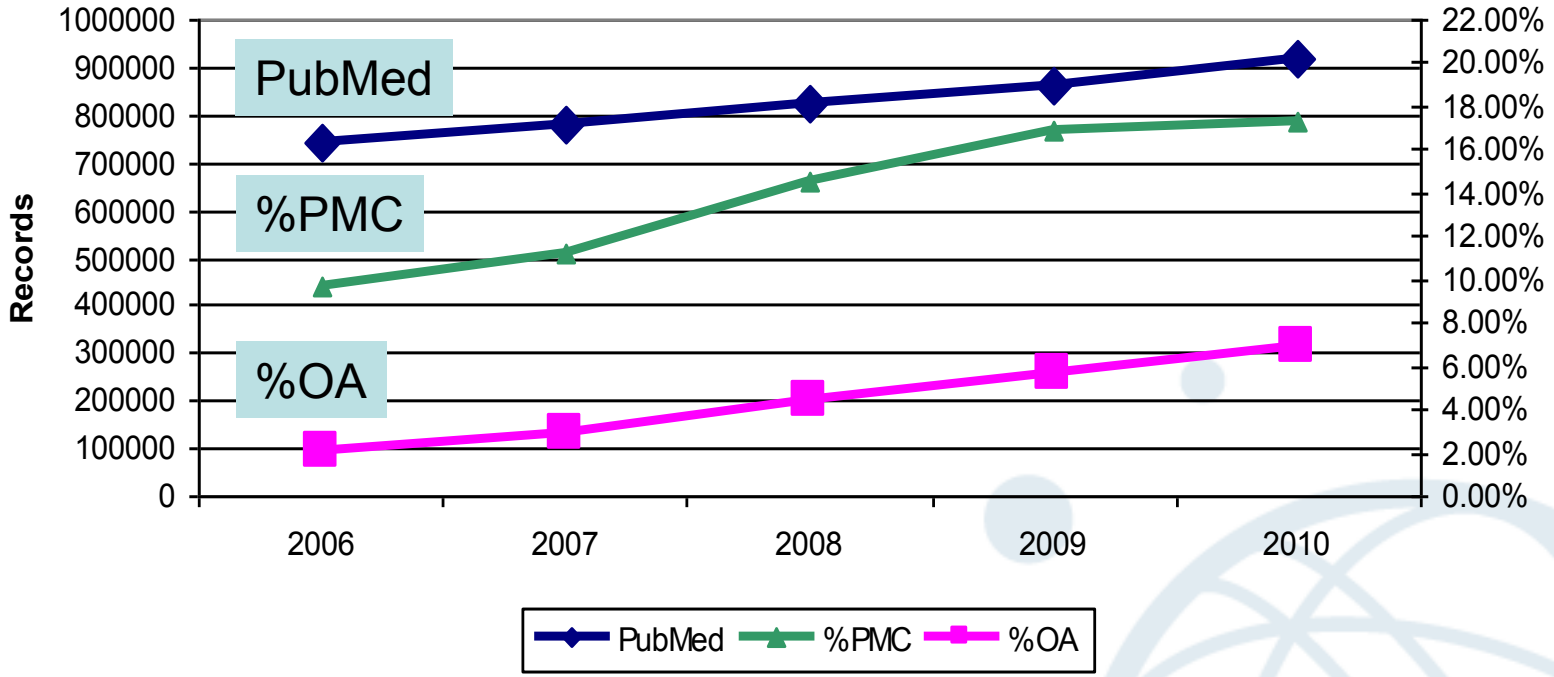
Open Access (OA) is a model for publishing scholarly peer reviewed journals, made possible by the Internet. The full text of OA journals and articles can be freely read, as the publishing is funded through means other than subscriptions. Empirical research concerning the quantitative development of OA publishing has so far consisted of scattered individual studies providing brief snapshots, using varying methods and data sources. This study adopts a systematic method for studying the development of OA journals from their beginnings in the early 1990s until 2009. Because no comprehensive index of OA articles exists, systematic manual data collection from journal web sites was conducted based on journal-level data extracted from the Directory of Open Access Journals (DOAJ). Due to the high number of journals registered in the DOAJ, almost 5000 at the time of the study, stratified random sampling was used. A separate sample of verified early pioneer OA journals was also studied. The results show a very rapid growth of OA publishing during the period 1993–2009.



In 2009, 7.7% of all peer-reviewed articles were gold OA

Laakso M, et al. et al. (2011) The Development of Open Access Journal Publishing from 1993 to 2009. PLoS ONE 6(6): e20961. doi:10.1371/journal.pone.0020961

Growth in OA at PMC



7% of PubMed is present within the OA subset of PMC

Welcome to the Open Access Scholarly Publishers Association, OASPA.

OASPA offers a forum for bringing together the entire community of Open Access journal publishers.

Our mission is to represent the interests of Open Access (OA) journal and book publishers globally in all scientific, technical and scholarly disciplines. This mission will be carried out through exchanging information, setting standards, advancing models, advocacy, education, and the promotion of innovation.

Through a shared interest in developing appropriate business models, tools and standards to support OA publishing, we can ensure a prosperous and sustainable future to the benefit of our members and the scholarly communities they serve. OASPA would like to thank SPARC Europe for its support during our initial phase of operation.

Keep up to date on OASPA via our Blog

We hope you will join us as an OASPA Member!

Announcements

The 3rd Conference on Open Access Scholarly Publishing is now open for registration!

The 2nd Conference for Open Access Scholarly Publishers (COASP), was held at the President Hotel, Prague, Czech Republic 22-24 August 2010. You can view the conference sessions at:

http://river-valley.tv/conferences/oaspa-2010/

OASPA Open Access Week WEBINAR: Live Q&A Session with Five OA Publishers - we hope those of you who were able the attend the live WEBINAR enjoyed it. For those of you who were unable to attend, a copy of the WEBINAR is now available on line in a Flash format.

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RESEARCH ARTICLE OPEN ACCESS

Complete Primate Skeleton from the Middle Eocene of Messel in Germany: Morphology and Paleobiology

Article | Related Content | Comments: 9

Jens L. Franzen[1,2], Philip D. Gingerich[3], Jörg Habersetzer[1], Jørn H. Hurum[4*], Wighart von Koenigswald[5], B. Holly Smith[6]

1 Forschungsinstitut Senckenberg, Frankfurt, Germany, **2** Naturhistorisches Museum Basel, Basel, Switzerland, **3** Museum of Paleontology and Department of Geological Sciences, University of Michigan, Ann Arbor, Michigan, United States of America, **4** Natural History Museum, University of Oslo, Oslo, Norway, **5** Steinmann-Institut für Geologie, Mineralogie und Paläontologie, Universität Bonn, Bonn, Germany, **6** Museum of Anthropology, University of Michigan, Ann Arbor, Michigan, United States of America

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Abstract Top

Background

The best European locality for complete Eocene mammal skeletons is Grube Messel, near Darmstadt, Germany. Although the site was surrounded by a para-tropical rain forest in the Eocene, primates are remarkably rare there, and only eight fragmentary specimens were known until now. Messel has now yielded a full primate skeleton. The specimen has an unusual history: it was privately collected and sold in two parts, with only the lesser part previously known. The second part, which has just come to light, shows the skeleton to be

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- Editorial criteria
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  - Ethical
  - Properly reported
  - Conclusions supported by the data

- Editors and reviewers do **not** ask
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  - Which is the relevant audience?
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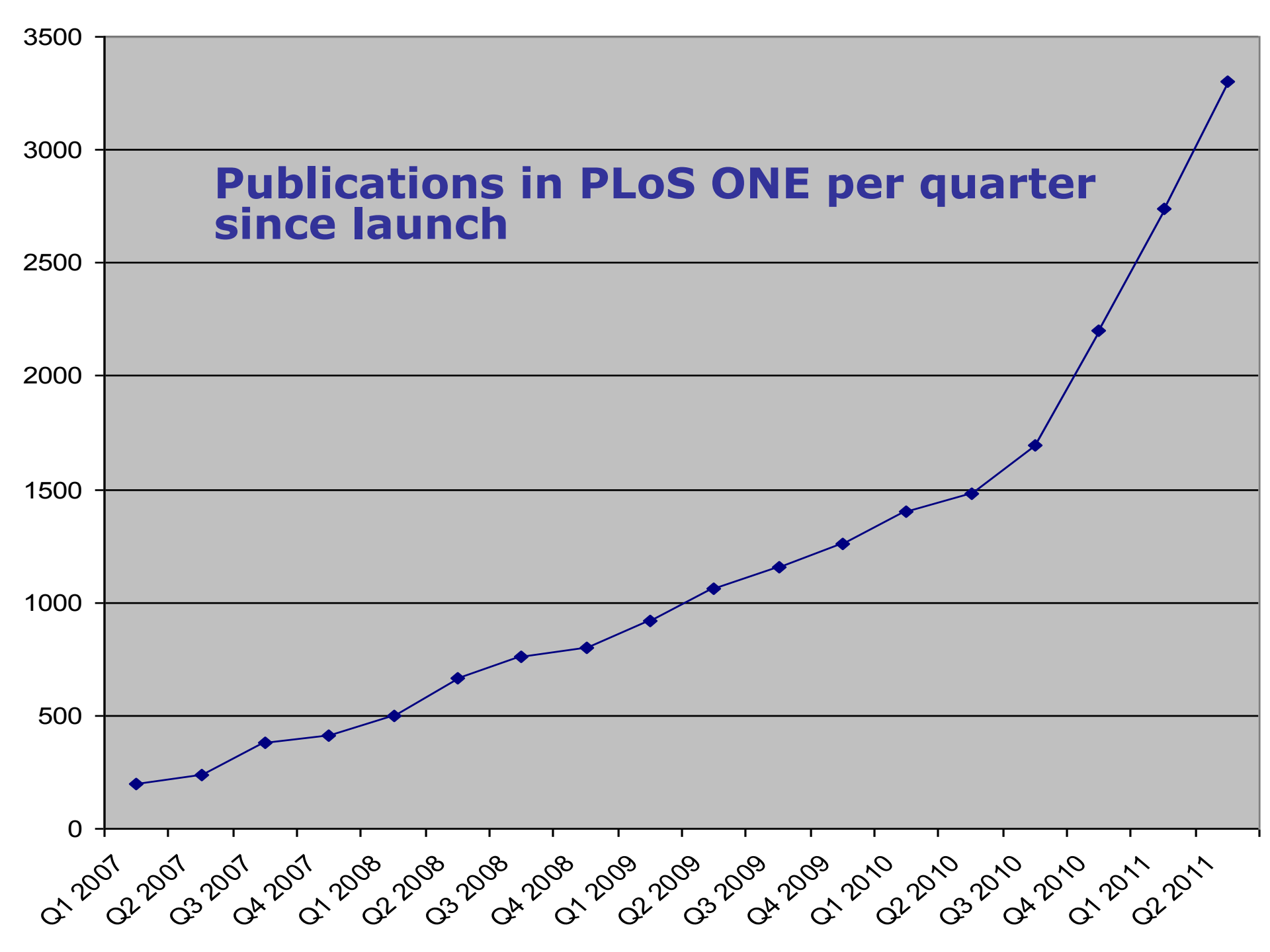
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3000
2500
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1000
500
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Q2 2007
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Q1 2008
Q2 2008
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Q4 2008
Q1 2009
Q2 2009
Q3 2009
Q4 2009
Q1 2010
Q2 2010
Q3 2010
Q4 2010
Q1 2011
Q2 2011

PLoS ONE – growth

Year	Submissions	Publications	% of annual PubMed
2007	2497	1231	0.16%
2008	4401	2723	0.34%
2009	6819	4404	0.52%
2010	13845	6749	0.84%
2011	>22,000*	>12,000*	~1.5%*

Projections

The largest peer-reviewed journal

- >50,000 authors
- >1500 Academic Editors

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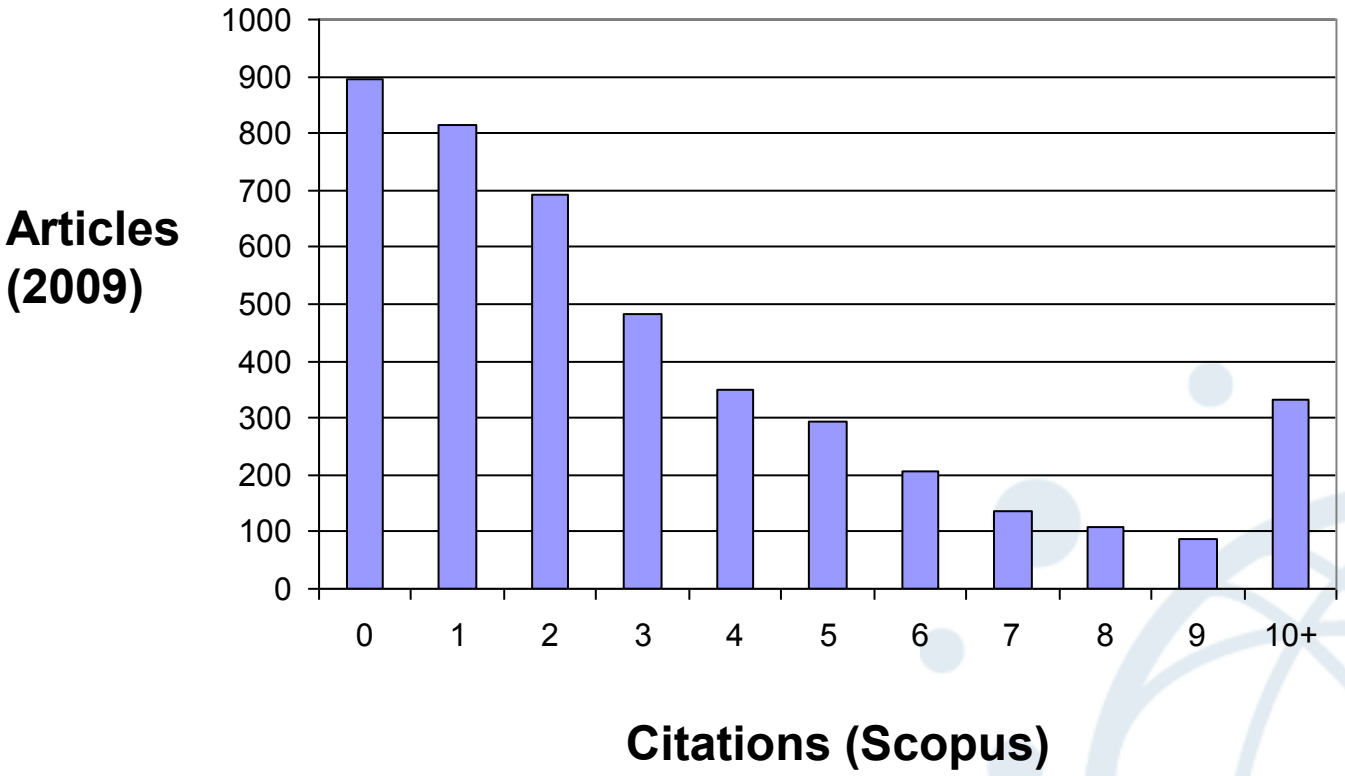

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Los Angeles CA (November 17, 2010) – SAGE, the world's leading independent academic and professional publisher today announced the launch of ***SAGE Open***: a new publication to support open access publishing in the social and behavioral sciences and the humanities.

SAGE Open will publish peer-reviewed original research and review articles in an interactive, open access format. The journal will offer authors quick review and decision times; a speedy, continuous-publication format; and global distribution for their research via the SAGE Journals Online platform. The articles will also be guaranteed professional copyediting and typesetting.

The publication supports the growing number of authors who require their articles to be freely available on publication, either because of personal preference or because of university or government mandates.

Unlike traditional journals, ***SAGE Open*** will not limit content due to page budgets or thematic significance. Rather it will accept articles solely on the basis of the quality of the research, evaluating the scientific and research methods of each article for validity.

"SAGE's position as a global leader in social science publishing gives authors submitting their work to ***SAGE Open*** an assurance of high quality," said Jayne Marks, Vice President and Editorial Director for SAGE's Library Information Group. "We will be creating an advisory board consisting of discipline leaders and a large editorial board of subject experts to ensure high quality publication."

SAGE Open will also include several enhanced features to give readers greater power to determine the significance of articles published, with usage metrics, commenting features, subject categories, article ranking and recommendations.

"SAGE has a long history of supporting and nurturing new interdisciplinary fields of research," said Bob Howard, Director of Social Science Journals. "By covering multiple disciplines in one place, we hope that ***SAGE Open*** will also facilitate the discovery of the connections between papers, whether within or between disciplines."

For more information, visit http://www.sageopen.com.

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Criteria for publication

top

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- QScience Connect (Bloomsbury Qatar Foundation Journals)

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Features of "OA Megajournals"

- Open Access
- Peer-reviewed for rigour not "impact"
- Post-publication mechanisms (eg metrics)
- Supported by publication fees
- Built on a strong brand
- Scalable, and can become very large

100 OA megajournals could account for 50% of the literature in 5 years

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Organizing content after publication

Part 1 - impact

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How could we measure 'impact'?

At the **ARTICLE LEVEL**, we could track:

- Citations
- Web usage
- Expert Ratings
- Social bookmarking
- Community rating
- Media/blog coverage
- Commenting activity
- and more…

Current technology now makes it possible to add these metrics automatically

RESEARCH ARTICLE OPEN ACCESS

Order in Spontaneous Behavior

Article Metrics Related Content Comments: 15

Alexander Maye[1], **Chih-hao Hsieh**[2], **George Sugihara**[2], **Björn Brembs**[3*]

1 Universitätsklinikum Hamburg-Eppendorf, Zentrum für Experimentelle Medizin, Institut für Neurophysiologie und Pathophysiologie, Hamburg, Germany, **2** Scripps Institution of Oceanography, University of California San Diego, La Jolla, California, United States of America, **3** Freie Universität Berlin, Institut für Biologie–Neurobiologie, Berlin, Germany

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Abstract Top

Brains are usually described as input/output systems: they transform sensory input into motor output. However, the motor output of brains (behavior) is notoriously variable, even under identical sensory conditions. The question of whether this behavioral variability merely reflects residual deviations due to extrinsic random noise in such otherwise deterministic systems or an intrinsic, adaptive indeterminacy trait is central for the basic understanding of brain function. Instead of random noise, we find a fractal order (resembling Lévy flights) in the temporal structure of spontaneous flight maneuvers in tethered *Drosophila* fruit flies. Lévy-like probabilistic behavior patterns are evolutionarily conserved, suggesting a general neural mechanism underlying spontaneous behavior. *Drosophila* can produce these patterns endogenously, without any external cues. The fly's behavior is controlled by brain circuits which operate as a nonlinear system with unstable dynamics far from equilibrium. These findings suggest that both general models of brain function and autonomous agents ought to include biologically relevant nonlinear, endogenous behavior-initiating mechanisms if they strive to realistically simulate biological brains or out-compete other agents.

Citation: Maye A, Hsieh C-h, Sugihara G, Brembs B (2007) Order in Spontaneous Behavior. PLoS ONE 2(5): e443. doi:10.1371/journal.pone.0000443

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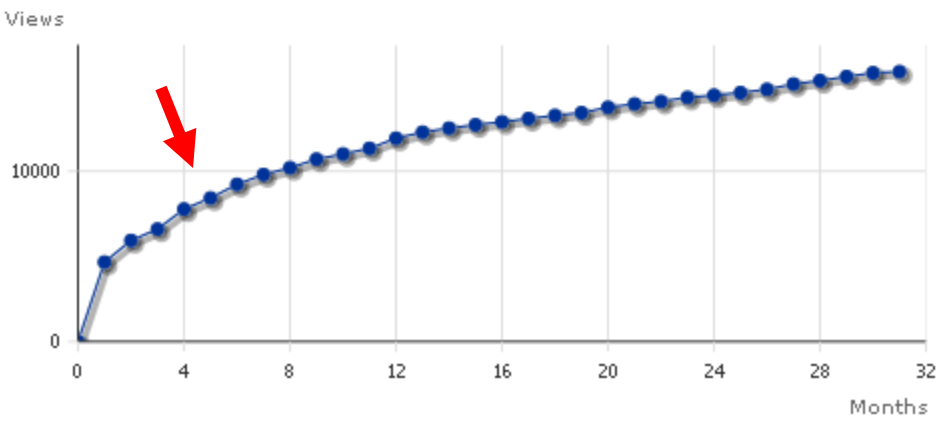

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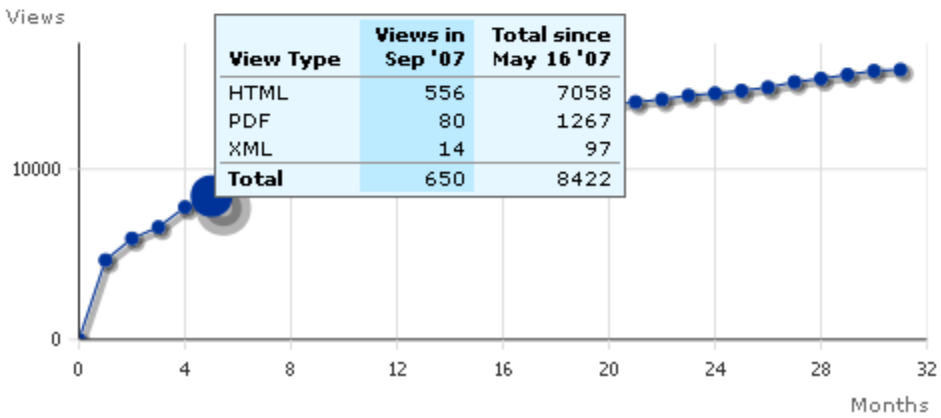

View Type	Views in Sep '07	Total since May 16 '07
HTML	556	7058
PDF	80	1267
XML	14	97
Total	650	8422

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Journal Summary Usage Data

This page contains summary tables relating solely to article usage data. We have also provided detailed text describing the full range of article-level metrics at PLoS, detailed information about usage data in particular, and a summary Excel file containing the full data set.

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Extending the data

For doi:10.1371/journal.pone.0006022,

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Jason Priem

RESEARCH ARTICLE OPEN ACCESS

A Principal Component Analysis of 39 Scientific Impact Measures

Johan Bollen[1*], **Herbert Van de Sompel**[1], **Aric Hagberg**[2#], **Ryan Chute**[1#]

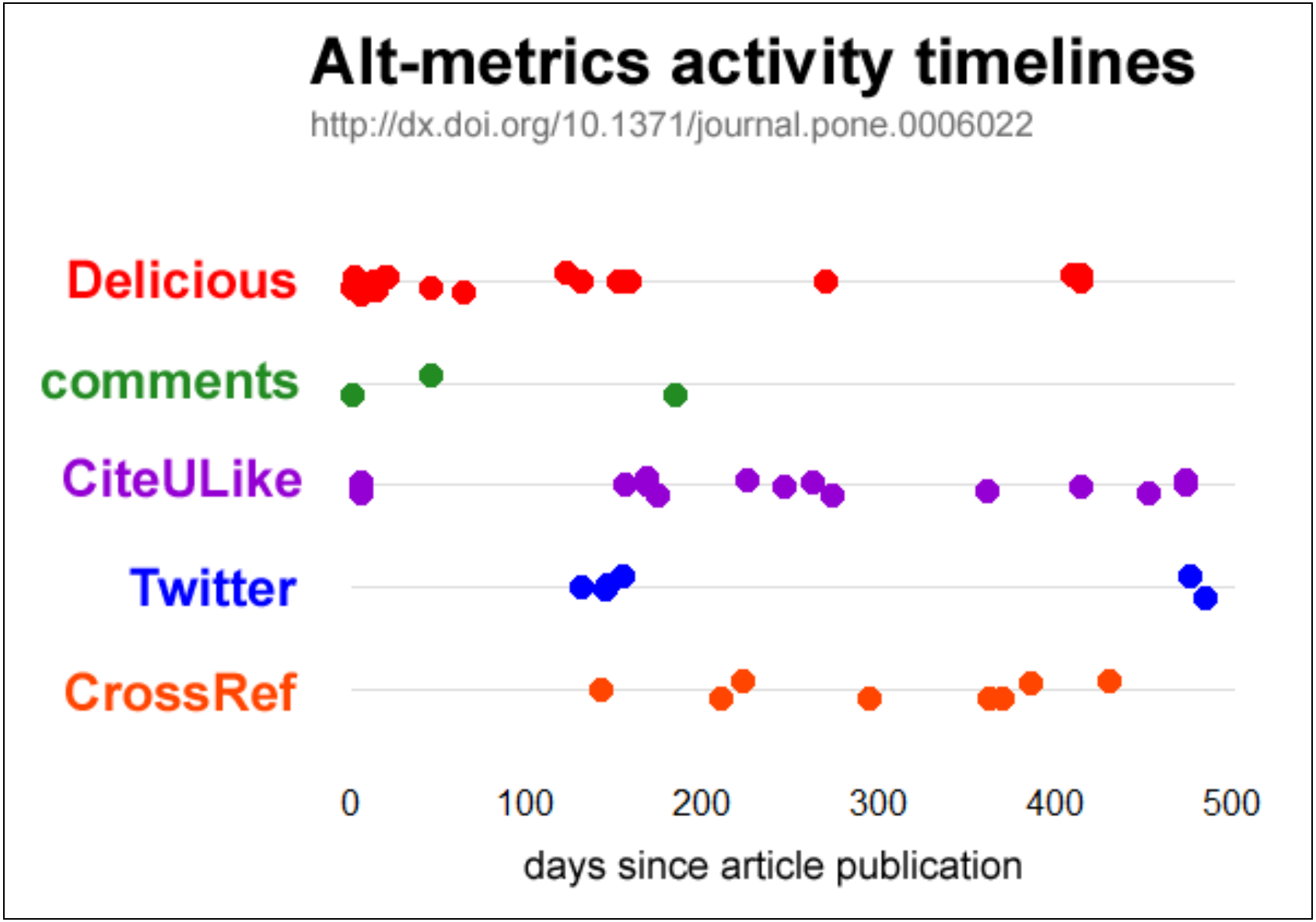
1 Digital Library Research and Prototyping Team, Research Library, Los Alamos National Laboratory, Los Alamos, New Mexico, United States of America, **2** Theoretical Division, Mathematical Modeling and Analysis Group, and Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, New Mexico, United States of America

Abstract Top

Background

The impact of scientific publications has traditionally been expressed in terms of citation counts. However, scientific activity has moved online over the past decade. To better capture scientific impact in the digital era, a variety of new impact measures has been proposed on the basis of social network analysis and usage log data. Here we investigate how these new measures relate to each other, and how accurately and completely they express scientific impact.

Extending the data



Jason Priem

PLoS API

PLoS and Mendeley API Contest

Posted on June 17, 2011 | Leave a comment

PLoS and Mendeley, the popular reference manager and academic social network, have teamed up to create a Binary Battle contest to build the best apps using PLoS and/or Mendeley's APIs. There's $16,000 in prize money to be won and the opportunity to get your app in front of a panel of influential judges from technology, media and science.

The prizes include:

- Grand prize: $10001 + $1000 Amazon Web Services credits
- Second prize: $5000 + $500 Amazon Web Services credits

The Dirty War In
for Examining a

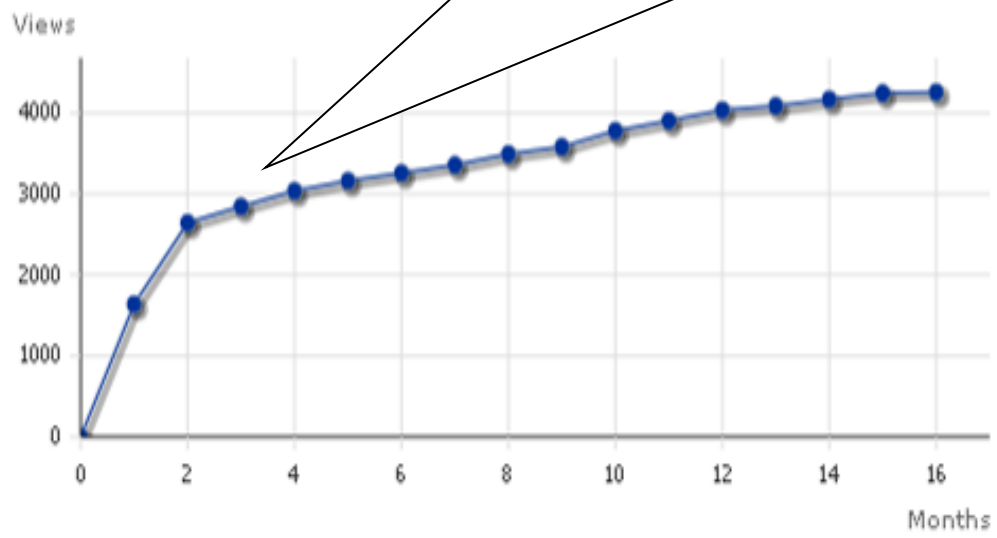
Article | Metrics

Article Usage

Total Article Views: 425

Breakdown by View Type
HTML Page Views: 3431
PDF Downloads: 781
XML Downloads: 45

Cumulative Views from Dec 16, 2008 (ar 3, 2010*



*Data refer to views from the PLoS Medicine Web site only

"The Dirty War Index (DWI) method has been adapted for use in NATO military environments to monitor civilian, woman and child casualties. This version of the DWI is called a 'Civilian Battle Damage Assessment Ratio' (CBDAR).
Since October 2009, the CBDAR methodology has been used by NATO forces in Southern Afghanistan in order to reduce the possibility of injuring Afghan civilians. The methodology has identified a number of military activities that historically lead to civilian mortality that has led to NATO changing procedures."

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Related Articles on the Web

Google Scholar

Next steps for article-level metrics

- More data sources
  - F1000, Mendeley, media coverage, tweets
- Impact that is hard to measure
- Expert analysis and tools
- Broader adoption
  - By publishers
  - By tenure committees, funders etc
- Develop and adhere to standards

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Organizing content after publication

Part 2 – community curation

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The goals of PLoS Hubs

- Aggregate open access content
  - Wherever it is published
- Add value to content by connecting with data
- Build communities around content

Demonstrate the power of open access

Today's Feature

Accuracy of ARGOS Locations of Pinnipeds at-Sea Estimated Using Fastloc GPS

How accurate is ARGOS satellite tracking compared to GPS for monitoring the movements and behaviors of marine mammals, such as seals? A study in PLoS ONE has shown that ARGOS – which is much cheaper and easier than GPS – does much better tracking marine mammals that spend more time on the surface, as opposed to those frequently underwater in deep dives.

Recently Added Articles

- **A Revision of Malagasy Species of Anochetus Mayr and Odontomachus Latreille (Hymenoptera: Formicidae)**
  Brian L. Fisher, M. Alex Smith
  Added 01 Oct 2010

- **Bringing the Tiger Back from the Brink—The Six Percent Solution**
  Joe Walston, John G. Robinson, Elizabeth L. Bennett, Urs Breitenmoser, Gustavo A. B. da Fonseca, John Goodrich, Melvin Gumal, Luke Hunter, Arlyne Johnson, K. Ullas Karanth, Nigel Leader-Williams, Kathy MacKinnon, Dale Miquelle, Anak Pattanavibool, Colin Poole, Alan Rabinowitz, James L. D. Smith, Emma J. Stokes, Simon N. Stuart, Chanthavy Vongkhamheng, Hariyo Wibisono
  Added 01 Oct 2010

- **Systematics within Gyps vultures: a clade at risk**
  Jeff A Johnson, Heather RL Lerner, Pamela C Rasmussen, David P Mindell

Curators & Steering Committee

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Peter Kareiva is at The Nature Conservancy where he moved after 20 years as a university professor and 3 years working on salmon conservation for NOAA Fisheries. More...

David Mindell is curator of birds and dean of science at the California Academy of Sciences in San

Microb Ecol. 2010 July; 60(1): 69–80.
Published online 2010 May 7. doi: 10.1007/s00248-010-9667-9.
PMCID: PMC2917558

Molecular and Microscopical Investigation of the Microflora Inhabiting a Deteriorated Italian Manuscript Dated from the Thirteenth Century

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Corresponding author.

Received March 1, 2010; Accepted March 12, 2010.

Abstract

Other Sections?

This case study shows the application of nontraditional diagnostic methods to investigate the microbial consortia inhabiting an ancient manuscript. The manuscript was suspected to be biologically deteriorated and SEM observations showed the presence of fungal spores attached to fibers, but classic culturing methods did not succeed in isolating microbial contaminants. Therefore, molecular methods, including PCR, denaturing gradient gel electrophoresis (DGGE), and clone libraries, were used as a sensitive alternative to conventional cultivation techniques. DGGE fingerprints revealed a high biodiversity of both bacteria and fungi inhabiting the manuscript. DNA sequence analysis confirmed the existence of fungi and bacteria in manuscript samples. A number of fungal clones identified on the manuscript showed similarity to fungal species inhabiting dry or saline environments, suggesting that the manuscript environment selects for osmophilic or xerophilic fungal species. Most of the bacterial sequences retrieved

Curator's Note

I included the Gyps paper because it concerns phylogeny, genetic diversity and species distinctiveness of three critically endangered vulture species with important ecological roles as scavengers. They have experienced extremely rapid population declines in the past decade, and the analyses presented can help inform conservation practices. The phylogenetic analyses supports recognition of Gyps tenuirostris as a distinctive species, rather than a subspecies, worthy of listing for protection.
David Mindell

Species in This Article

- *Aegypius monachus*
- *Gypohierax angolensis*
- *Gyps bengalensis*
- *Gyps indicus indicus*
- *Gyps indicus tenuirostris*
- *Gyps coprotheres*

BMC Evol Biol. 2006; 6: 65.
Published online 2006 August 23. doi: 10.1186/1471-2148-6-65.
PMCID: PMC1569873

Systematics within *Gyps* vultures: a clade at risk

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Received May 11, 2006; Accepted August 23, 2006.

Abstract

Other Sections?

Background

Populations of the Oriental White-backed Vulture (*Gyps bengalensis*) have declined by over 95% within the past decade. This decline is largely due to incidental consumption of the non-steroidal anti-inflammatory veterinary pharmaceutical diclofenac, commonly used to treat domestic livestock. The conservation status of other *Gyps* vultures in southern Asia is also of immediate concern, given the lack of knowledge regarding status of their populations and the continuing existence of taxonomic uncertainties. In this study, we assess phylogenetic relationships for all recognized species and the majority of subspecies within the genus *Gyps*. The continuing veterinary use of diclofenac is an unknown but potential risk to related species with similar feeding habits to *Gyps*

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Aegypius monachus

Taxonomic Hierarchy

Domain : Eukaryota > Kingdom : Animalia > Subkingdom : Eumetazoa > no rank : Bilateria > Superphylum : Deuterostomia > Phylum : Chordata > Subphylum : Vertebrata > Superclass : Tetrapoda > Class : Aves > Order : Falconiformes > Family : Accipitridae > Genus : Aegypius

Images


Joachim S. Müller


Joachim S. Müller


Harald Hoyer


Michael Wirth


David Burden


Joaquim Macedo Machado

Description

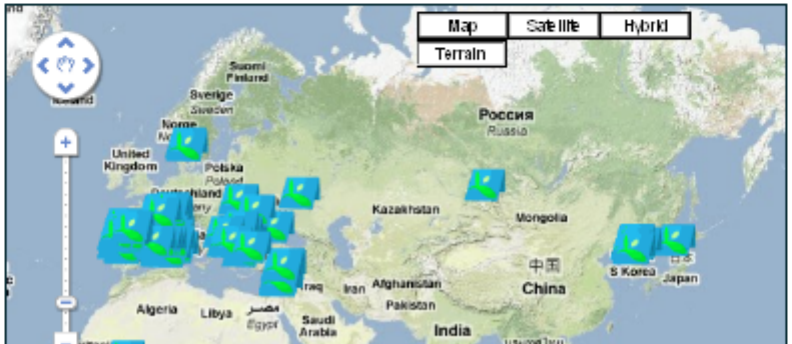
The Cinereous Vulture (Aegypius monachus) is also known as the Black Vulture, Monk Vulture, or Eurasian Black Vulture. It is a member of the family Accipitridae, which also includes many other diurnal raptors such as kites, buzzards and harriers. This bird is an Old World vulture, and is only distantly related to the New World vultures, which are in a separate family, Cathartidae, of the order Ciconiiformes. It is therefore not directly related to the American Black Vulture despite the similar name and coloration. It breeds across southern Europe and Asia from Spain to Korea, but is endangered throughout its European range. It is resident except in those parts of its range where hard winters cause limited movement. The Cinereous Vulture is perhaps the largest of the birds of prey in the world, though nearly equalled by the Himalayan Griffon Vulture. The Andean Condor, slightly larger, is now generally considered unrelated to the true Falconiformes. This large bird is 98–120 cm (39–47 in) long with a 270–310 cm (99–119 in) wingspan and a weight of 7–14 kg (15.5–31 lbs), and is thus one of the world's heaviest flying birds. It breeds in high mountains and large forests, nesting in ...

Read the entire article on Wikipedia: http://en.wikipedia.org/wiki/index.html?curid=201635

Gene Sequences

NCBI Taxonomy ID : 8969

Specimens



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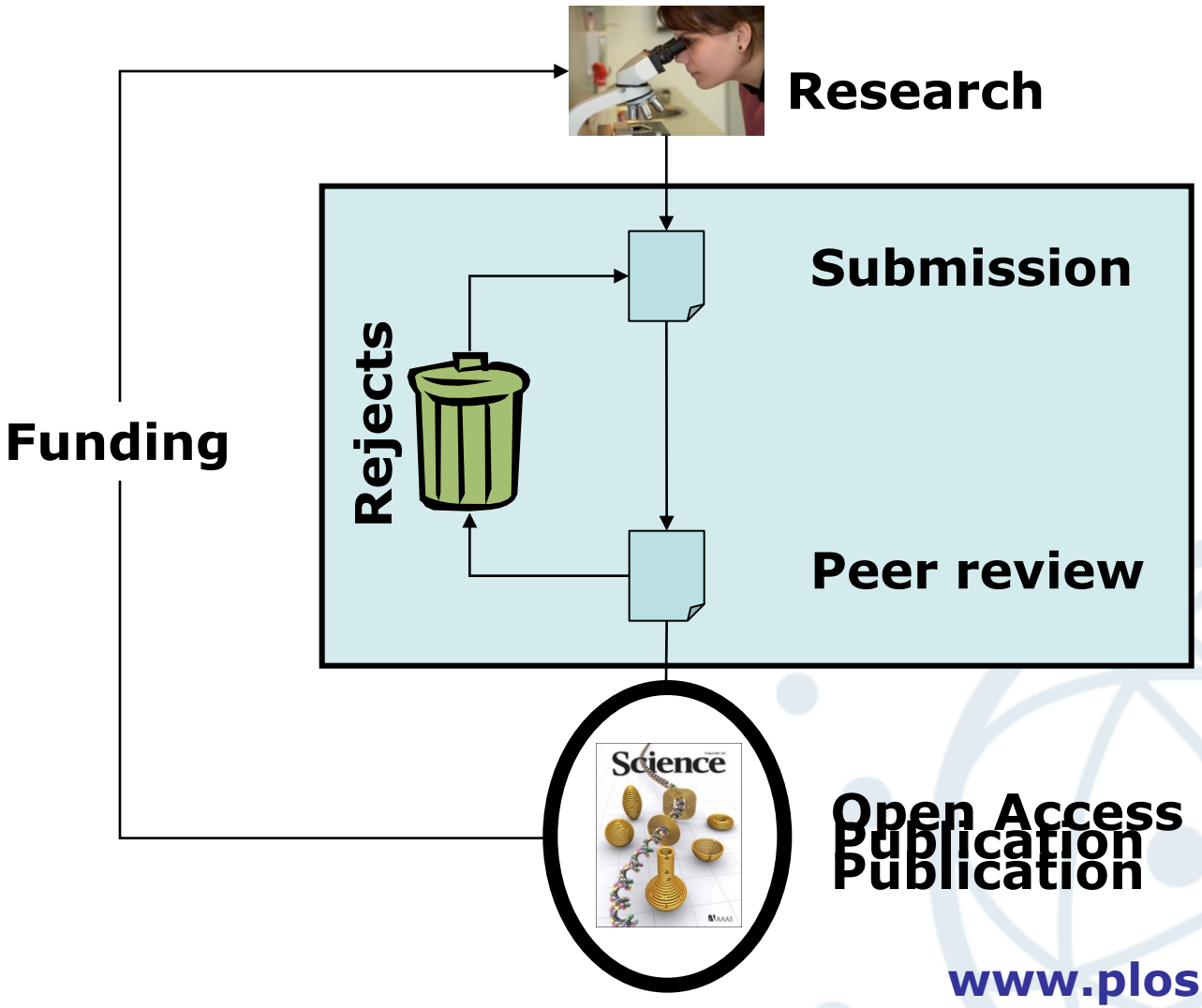
Next steps for PLoS Hubs

- Enhance and automate content enrichment
- Develop Hubs community
  - allow users to 'follow' a curator
- Extend literature sources beyond PMC
  - ideally to non-OA content
- Extend Hubs concept to other disciplines
- Make Hubs easy to replicate

Research communication (online)



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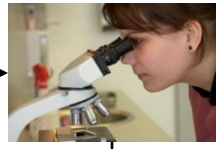
New models of research communication



Research

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Some implications

- More rapid communication
- Acceleration towards OA
- Consolidation into fewer ‘journals’
- Article-level research assessment
- Post-publication content enhancement

Change is inevitable