

# **Data Sharing and Headline Grabbing: Lessons Learned from Research Gone Viral**

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**CCBY4.0**



Diving partners  
Allen and Akkaynak teamed up for a serendipitous find during their field research.  
*Roger Hanlon*

Andrew: tell background



National Science Foundation  
WHERE DISCOVERIES BEGIN

## Dissemination and Sharing of Research Results

### NSF DATA SHARING POLICY

Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. See [Proposal & Award Policies & Procedures Guide \(PAPPG\) Chapter XI.D.4](#).

### NSF DATA MANAGEMENT PLAN REQUIREMENTS

Proposals submitted or due on or after January 18, 2011, must include a supplementary document of no more than two pages labeled "Data Management Plan". This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results. See [PAPPG Chapter II.C.2.j](#) for full policy implementation.

*"The Data Management Plan will be reviewed as an integral part of the proposal, considered under Intellectual Merit or Broader Impacts or both, as appropriate for the scientific community of relevance."*

[PAPPG Chapter II.C.2.j](#)

Andrew: The researchers had received funding from NSF and were looking to comply with its expectations for sharing their video and data with other researchers and the public. The NSF's DMP policy recognizes sharing data with the public among activities associated with broader impacts...

## Publication Agreement

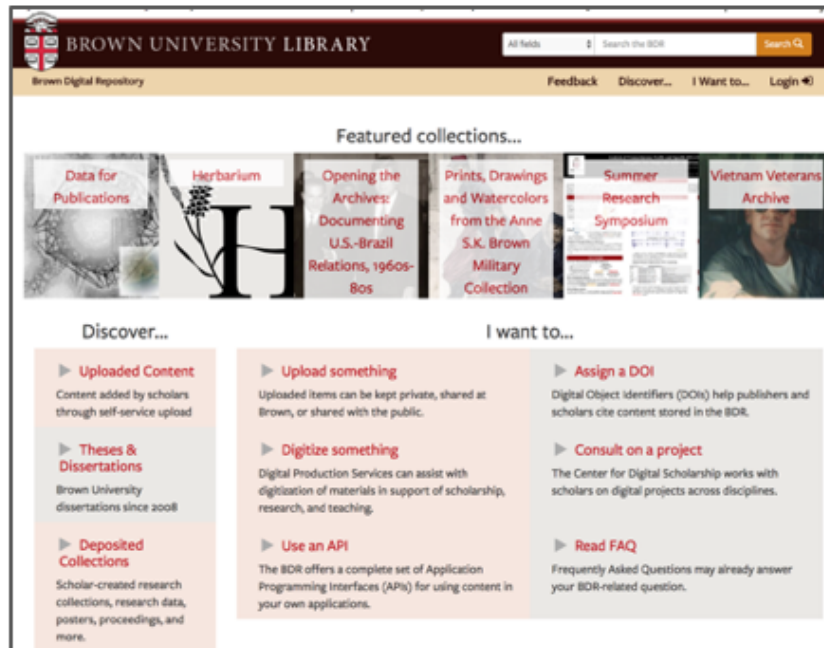
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**“Content”**: all materials made available by the Press on its website, including both editorial content in the Journals, such as articles, editorials, book reviews, announcements, and **supplementary and associated electronic materials**...

Andrew: The authors first explored sharing data through their publication. However after having their manuscript accepted and reading their journal’s Publication agreement they were concerned about signing over the copyright to not only their article and its figures to the Press, but also the copyright of their video and data. They wondered if there was a way to share their video and data and yet preserve their copyright to their video and data at the same time.

# repository.library.brown.edu



Andrew: So instead of providing the video and data files to their journal's publisher and embedding the video into their article the authors deposited it and their data files into the Brown Digital Repository (BDR) so that they could then cite the video and data and link to it within the manuscript; this way readers could then discover and link out to watch the video. Depositors in their universities' institutional repositories like the BDR keep their copyright. Institutional repositories like the BDR are usually located in the Library and provide storage, preservation, and dissemination through online discovery and access.

## In-Text and Bibliography Citation of Data

Male 2 did not return before the scuba dive was terminated due to low air levels. Overall, the male-male aggressive interactions occurred over 227 s, with three aggressive bouts lasting 14 s, 25 s, and 47 s, respectively. Male 2 (intruder) won bouts 1 and 2, while male 1 (consort) won bout 3. Supplementary video sequences and color photographs are available at <https://doi.org/10.7301/ZoPR7SX4>; sequences of behaviors shown by each male and an illustration of the skin patterns, arm posture, and pupil dilation are presented in figure 2.

Justine J. Allen, Derya Akkaynak, Alexandra K. Schnell, and Roger T. Hanlon, "Dramatic Fighting by Male Cuttlefish for a Female Mate," *The American Naturalist* 190, no. 1 (July 2017): 144-151. <https://doi.org/10.1086/692009>

Depositors retain copyright to their works  
Deposit of files in sustainable formats in Brown Digital Repository (BDR)  
Collocation with metadata  
Assign a digital object identifier (DOI) for citation in manuscript

Andrew: Many IRs like the BDR provide digital object identifiers (DOIs) for authors to cite their data within their publications. The authors' article uses their data and video DOI from the BDR for in-text and bibliography citations. Depositing and citing data in an IR has proven to be more sustainable than citing data on a researcher's website.

Brown Digital Repository Feedback Discover... I Want to... Login

## Dramatic fighting by male cuttlefish for a female mate

**Overview** [Full Metadata](#)

**Title**  
Dramatic fighting by male cuttlefish for a female mate


**Contributors**  
Akkaynak, Derya (creator)  
Allen, Justine J. (creator)

**Doi**  
[10.7301/Z0PR7SX4](https://doi.org/10.7301/Z0PR7SX4)

**Date Created**  
2011-05-02

**Abstract**  
Male cuttlefish compete for females with a repertoire of visually dramatic behaviors. Laboratory experiments have explored this system in *Sepia officinalis* but corroborative field data have eluded collection attempts by many researchers. While SCUBA diving in Turkey, we fortuitously filmed an intense sequence of consort/intruder behaviors

**Content** Views - | Files -



Dramatic fighting by male cuttlefish for a female mate

FIRST MALE CHALLENGED THE SECOND MALE, WHO EXTENDED HIS 4TH ARM TOWARDS HIM.

**Citation**


Akkaynak, Derya, and Allen, Justine J., "Dramatic fighting by male cuttlefish for a female mate" (2011). *Data for Publications*. Brown Digital Repository. Brown University Library.  
<https://doi.org/10.7301/Z0PR7SX4>

**Notes**

Funded by National Defense Science and Engineering Graduate Fellowship and a National Science Foundation Graduate Research Fellowship (to JJ Allen); ONR grant #N0001406-1-0202 and support from the Sholley Foundation to Roger Hanlon, PhD  
Recorded afternoon of May 2, 2011

**Extent**  
1 FlipCam video (02:48)

**Access Conditions**  
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Andrew: Here is the data record for the authors' data and video within the BDR; notice the original license that was assigned to the video by the authors...

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Andrew: The license they chose did not extend their permission for a user to make what is known as a derivative (transform or remix) of their video. **Edit the length of video (add or remove material)**  
**Soundtrack (music, voice overs)**

**Edit (Remove, change, add) subtitles**

**Create new iteration using part or entirety of content of the video**



## News from Brown

# Study reveals first recording of cuttlefish fighting over a mate in the wild

May 2, 2017 Media contact: [David Orenstein](#) 401-863-1862



Marine Biological Laboratory

## Mating Battle Between Wild Cuttlefish Captured on Video for First Time

MAY 2, 2017 BY DENISE KERGO

Contact: Diana Kenney

[dkenney@mbi.edu](mailto:dkenney@mbi.edu); 508-289-7139(office) or 508-685-3525(cell)

Andrew: After their paper was published, the authors' institutions created press releases. Andrew: The press releases followed expectations for citation and did not make any derivatives of the authors' video.

- Names the authors
- Highlights work by female scientists
- Highlights work by graduate students
- Link to the article
- Link to the video

The image shows a screenshot of a YouTube video player. On the left side, there is a white box containing the text "170,619 views". A red arrow points from this box to the video player's interface. The video player itself has a black background with white text. The title is "Dramatic Fighting By a Male Cuttlefish for a Female Mate". Below the title, the authors are listed: "Justine J. Allen, Derya Akkaynak, Alex K. Schnell, and Roger T. Hanlon". The video player shows a progress bar at 0:03 / 2:48 and the text "Filmed on May 2, 2011 in Çeşmealtı (İzmir), Turkey". Below the video player, the title "Dramatic fighting by male cuttlefish for a female mate" is repeated, along with "Unlisted" and "170,619 views". There are icons for LIKE, DISLIKE, SHARE, and a menu icon. At the bottom, the channel name "Brown Digital Repository" is shown with a green circle containing a white 'B', and the text "Uploaded on May 2, 2017". A red "SUBSCRIBE" button is also visible.

Andrew: The YouTube embed we had created for sharing the video in the press releases began to receive a lot of attention.

## **Pornification, Hyperbole, and Click-Bait, Oh my!**

**“This Video of Cuttlefish  
Trying to Bang Will  
Scar You For Life” -*Gizmodo***



**“Yep, That’s How Cuttlefish Do It” -*Live Science***

**“In this utterly dramatic video...Squishy and vulnerable in the sheets, violent and aggressive in the streets. Looks like nice guys finish first in the ways of cuttlefish love.” -*Mashable***

Andrew: And then all of a sudden we began to notice somewhat unwelcome attention from online media outlets...

## Research Questions

How did online media sites of 'venerable' publishers such as the *New York Times*, AAAS's *Science*, *Smithsonian*, and *National Geographic* differ in their coverage of the research and video compared to born-digital media outlets such as *Gizmodo* and *Mashable*?

Were these media sites citing the researchers' work and providing attribution to the authors, and linking to the original journal article and/or the video?

Were the sites who included a link to researchers' video in their articles following their wishes outlined in the license assigned by the creators to their video?

Was the reporting on the science accurate?

Were these no scholarly sites including the doi in their citations of the researchers' article or their video?

Andrew: What Hope and I observed was that some media were not following what we had expected to be the norms of scholarly communications, such as citation of the publication, attribution for the authors and video creators, and adhering to the terms and permissions of data creators. We then wondered if this were true across all of the media coverage.

## Methods

**Step 1:** Searched databases *Access World News*, *LexisNexis*, and search engine *Google News* for online articles using keywords “cuttlefish fight\*” OR “cuttlefish mat\*” OR “cuttlefish battl\*” Or “cuttlefish viol\*” and author names between April and July 2017 (n = 60)

**Step 2:** Excluded aggregator and blog sites that just reposted press releases/videos (*Futurity*, *Phys.org*, etc.) and coverage on social media from non-media publishers e.g., individual postings on *Twitter*, *Facebook*, *Instagram*, *Pinterest*, *FLICKR*, etc. (this would be a whole other and worthwhile study all unto itself...) and we eventually excluded non-English language coverage (though the *Google* translations were very amusing...)

Andrew: So we decided we would actually take a closer look and analyze the content of the internet media articles by designing a rubric to collect data related to our questions.

and we eventually excluded non-English language coverage (though the Google translations were very amusing...)

*“Romantic squid drama filmed for first time”*

*“In a bay of the Aegean near Izmir, this cuttlefish filthy video was filmed”*

*“Two cuttlefish mate languorously in sandy bottoms”*

*“This coloring is accentuated especially during the mating parade--or when it becomes irritated”*

*“A terrible monster, a soft miracle brain”*

## Methods

**Step 3:** Appraised and selected a sample of articles to compare (n=21); (7 articles were from 'venerable' sites we defined as non-tabloids that had once existed as paper e.g., *Smithsonian*, *Newsweek*, *National Geographic*, *New York Times*, AAAS's *Science Magazine*); 7 articles were from 'less venerable' sites, which were born-digital journalism sites that cover news and tabloid, e.g., *MSN*, *YahooNews*, *Mashable*, *Gizmodo*, and *Pickle 9*, etc., and our last category consisted of 7 articles from born-digital media sites specializing in science news, e.g., *Live Science*, *Azula*, *Earth Touch*, *Science News*, *The Science Times*, etc..

**Step 4:** Created a rubric instrument for document analysis of content

**Step 5:** AC and HL independently analyzed media sites coverage (text, video, and images linked or embedded) and then reviewed findings and resolved any conflicting scores

Andrew

## Content Analysis: Does the media article...

Cite the scientific article in text of media article and/or in any derivative video?

Name the author(s) in the media's article/derivative video (which ones, how many?)

Cite creators of original video in any derivative video?

Create original text or reprint text of original press releases?

Cite original BDR video in media article text and/or in any derivative video?

Include the assigned license in the media article disseminating embedded video?

Include the DOI in media site's article for the researchers' publication or video

Follow terms of researchers' video's assigned license (no derivative video created)?

Accurately report the science?

Andrew: For the document analysis we each read through the articles and watched any related videos that were linked or embedded. This is what we observed.



## Observations

Pennisi, Elizabeth, "Cuttlefish Really Know How to Fight for their Gals, Rare Video Shows." *Science*, accessed May 3, 2017.

<http://www.sciencemag.org/news/2017/05/cuttlefish-really-know-how-fight-their-gals-rare-video-shows>

- Both mentions and links to the researchers' publication
- But only names and cites the single male author
- Created a derivative video
- No citation for original video in Brown Digital Repository

Hope: Reports observations AAAS video - 47,575 views (as of April)

## Observations



Hope: In the cases when sites created derivative video creators were repeatedly reduced to “footage”...Disco-porn music kicks in around 45 seconds in... “Cuddle another day” pun. Where do viewers see the scientists?

## Observations

Bates, Mary, "Cuttlefish Fight Viciously in First Video Shot in the Wild."  
*National Geographic*, accessed May 5, 2017.  
<https://news.nationalgeographic.com/2017/05/cuttlefish-mating-sex-video-turkey/>

- ❌ "Scientists have observed the species mating in the lab, but no one had seen the invertebrates get busy in the wild before." (It is the male fight over a mate (not the sex) that is the discovery...)
- ❌ No mention or citation of their publication in article text/video
- ❌ Created a derivative video
- ❌ No citation in text or derivative video for original video

Hope:

Article

- SO WRONG: "Scientists have observed the species mating in the lab, but no one had seen the invertebrates get busy in the wild before."
- No mention of paper, BDR, etc. Only JA and Brown University are mentioned.

video 28,654 views (as of April)

- Mentions scientists
- Footage credit in upper left for last 4 seconds of video

## Observations

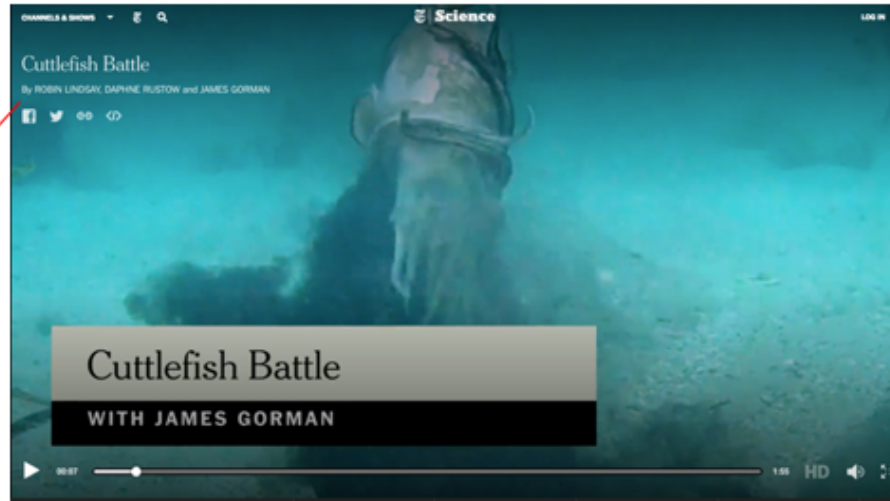
Gorman, James, "Battle of Cuttlefish Caught on Tape." *New York Times*, accessed May 5, 2017. <https://www.nytimes.com/2017/05/05/science/cuttlefish-fight-video.html>

- Mentions and links to authors' scientific article
- Mentions all the authors' names in the article text
- Created derivative video
- No citation for original video in Brown Digital Repository

Hope: video (the NYT video offers no info on number of views on its own platform)

- Beginning of video, all attribution is the narrator/reporter and other folks: "Cuttlefish Battle by \_\_\_\_" (see picture)
- Narrator does say they were scientists
- Later refers to "brown university researcher and her colleagues"... made the video and "just released it" (like they were keeping it secret).
- At end, attribution for "footage" as well as research attribution (see pictures)

# Observations



Not the  
scientists...

Hope: Watching this makes you think James Gorman and the video producers actually recorded the video and did the research...



## Cuttlefish Battle

By ROBIN LINDSAY, DAPHNE RUSTOW and JAMES GORMAN



### RESEARCH

"Dramatic Fighting by Male Cuttlefish  
for a Female Mate"

Justine J. Allen, Derya Akkaynak,  
Alexandra K. Schnell and Roger T. Hanlon  
The American Naturalist, May 2, 2017

© 2017 *The New York Times*



1:50

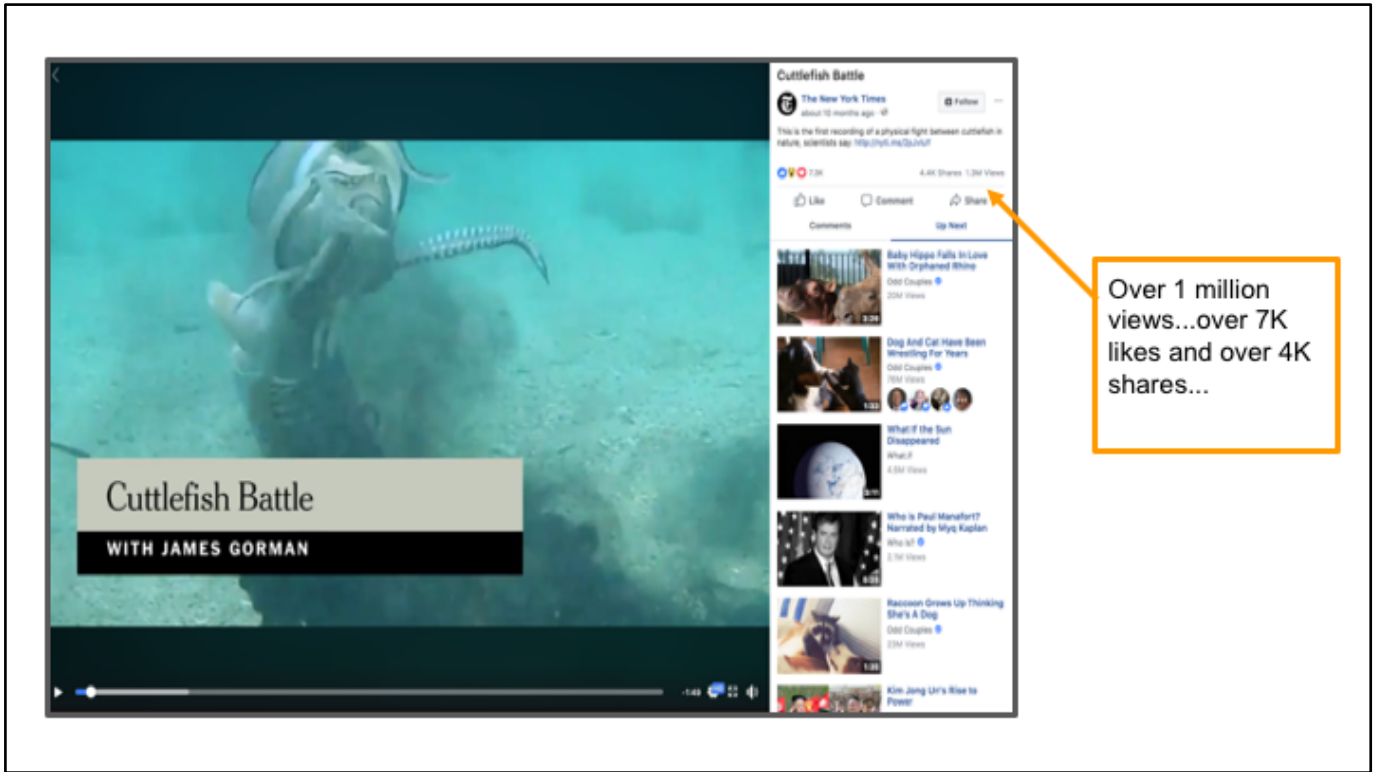


1:55

HD



Hope: The final seconds of the NYT's derivative video flash the creators names as well as a citation for the article sans DOI...



Although NYT does not share number of views of videos on their own website their Facebook page does.

## Observations

Maguire, Danielle, "Inky Madness Ensues When Cuttlefish Fight in Underwater Love Triangle." *Pickle*, accessed May 7, 2017.  
<https://pickle.nine.com.au/2017/05/04/11/37/cuttlefish-fight-ink-mate-female>

- ✓ Article links to authors' scientific publication
- ✓ Mentions two of the female authors' names in the article text
- ✓ Tries to link to the BDR video (but uses wrong link)
- ✗ ✓ Tells the story using GIFs of SpongeBob SquarePants...

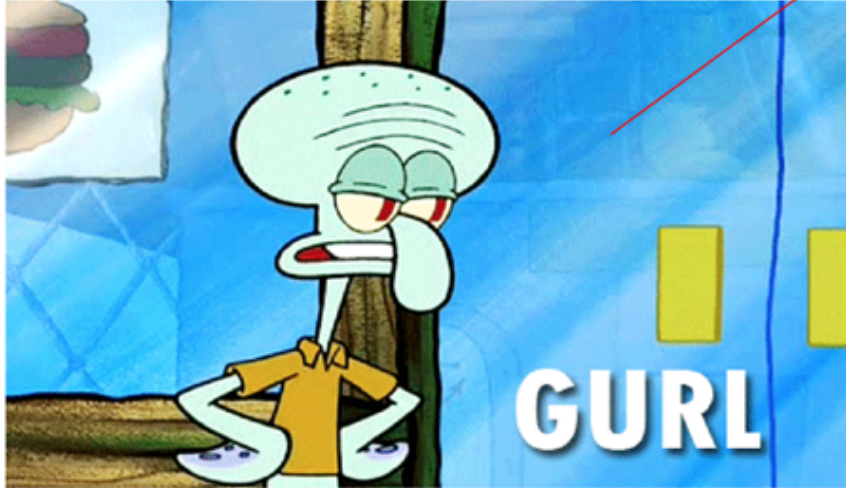
Hope: Now compare these three "venerable" media publishers to sites like Gizmodo, Mashable, and the like and we see some surprises. Here is a BuzzFeed-like site called Pickle based in Australia.



The classic love triangle storyline may be overused by underwhelming rom coms but this footage proves that, when applied to cuttlefish, the concept can still be entertaining.

Because it involves tentacle slapping, ink spraying and a whole lot of squiddy sass.

We are not joking...



[Via Paramount Television]

Hope: So indeed, despite the salacious headlines and sensationalized coverage, we noticed that in many cases these internet media sites were following more scholarly communication norms than we had assumed.

## Findings

Majority of 'venerable' media sites produced and re-distributed a derivative video

The majority of science-focused media sites linked to other media sites' derivative videos and not the researchers' video

We cannot conclude any media site's coverage will adhere to scholarly communication norms; *Gizmodo*, *Pickle*, and *Yahoo! News* did just as well as our selected 'venerable' and science-focused digital media sites in accurate reporting, linking to scientific publication, and providing attribution to authors, and linking to researchers' video and equally poor at conserving doi in video/publication citation

Hope presents findings...

## Findings

While the sites in our 'less venerable' category did better following the video's original license this could be due to reduced budgets to afford staff, time, and capacity to produce, edit, and distribute their own derivatives

No sites included the original license assigned by the researchers to their video

All categories did not do well preserving the DOI in its the citation of the researchers' publication or video

Investing in production and distribution of a derivative video did not necessarily pay off in "viral" views (e.g., *LiveScience* (<4K), *GeoBeats News* (<7K), *ScienceNews* (10K) and the NSF/*Science360* (<1K)

Hope: Reports findings

## Comments Section Trolls and Mansplaining...

YouTube

Search



Johnfly8 11 months ago

The first time? No. Documentary on the Cuttlefish has been out for years.

👍 👎 REPLY

↓ There are recordings of cuttlefish fighting over a mate already, though. [This video](#) (2:15) is an example from Discovery, and it's slap been covered on BBC Earth. Does this imply that previous recordings are of animals in captivity?

permalink embed save

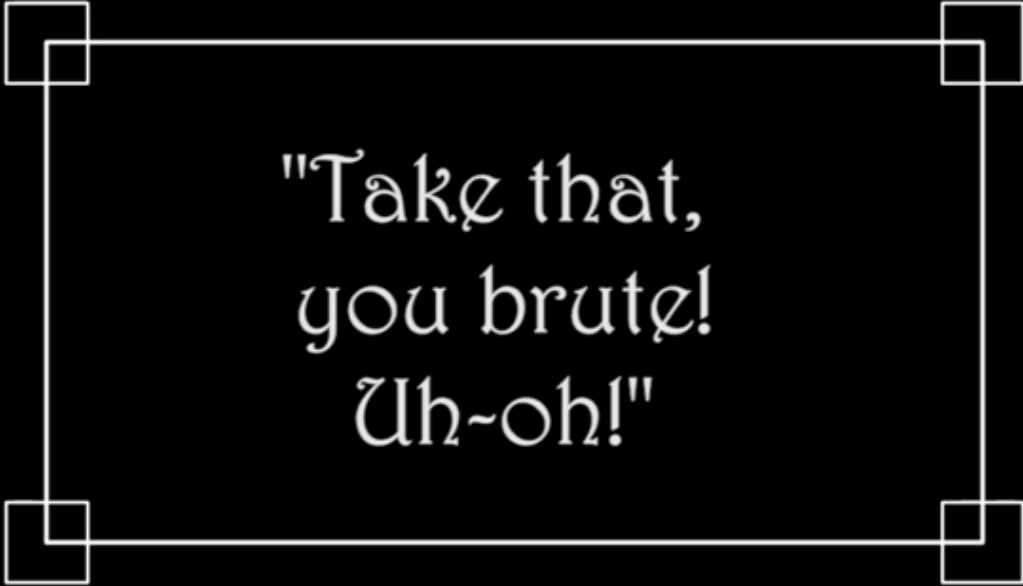
↑ [-] [jezebaal](#) [S] 1 point 11 months ago

↓ <http://www.journals.uchicago.edu/doi/10.1086/692009> Abstract

permalink embed save

Comment Sections on Reddit: [https://www.reddit.com/r/science/comments/68umlk/study\\_reveals\\_first\\_recording\\_of\\_cuttlefish/](https://www.reddit.com/r/science/comments/68umlk/study_reveals_first_recording_of_cuttlefish/) and GeoBeats News YouTube channel: <https://www.youtube.com/watch?v=WFIRxW3BzjU>

Hope: Once a story goes viral there can be a darker side to the internet that will be out of the hands of the scientists. There will be trolls. There will be people who miss the point, who get the science wrong.



"Take that,  
you brute!  
Uh-oh!"

Hope: Play video:

<https://www.facebook.com/steve.baragona/videos/10154695663798691/>. And yet there will also be bright spots sharing your work with the public such as creative people who will surprise you and take your work and do some very weird and yet wonderful things with it...again even though we exclude social media for this particular paper, you can see there is some rich material here for further study...who knows what other transformative works exist out there like this one created by a science hobbyist employed at Voice of America...

## Fair Use and Transformation: Not Cut and Dry

*Amount and substantiality of the portion used in relation to the copyrighted work as a whole:* Under this factor of Fair Use, courts look at both the quantity and quality of the copyrighted material that was used. If the use includes a large portion of the copyrighted work, fair use is less likely to be found; if the use employs only a small amount of copyrighted material, fair use is more likely. That said, some courts have found use of an entire work to be fair under certain circumstances. And in other contexts, using even a small amount of a copyrighted work was determined not to be fair because the selection was an important part—or the “heart”—of the work.

Source: Copyright.gov

Hope: Arguably, the venerable media sites took some liberties with the fair use of the scholars' copyrighted work by using quite a lot of the authors' original work and then redistributing the transformed work (and one could even argue they did so for a commercial purpose since these sites derivative videos, even if freely available to view online, have advertisements, which was also prohibited by the creators' original license)...So it's ethically murky but not necessarily rises to the level of copyright infringement.

## Lessons Learned

- We never talked to media explicitly about the authors' original video license and their wishes, and our expectations for attribution, and citation
- Don't assume media sites like NYT and NG will adhere to scholarly norms and not be self-promotional or more scholarly than other media
- Beware what Andrew called "Price is Right Syndrome" (Come on down!): stay calm and ask for specific information above to be included before just jumping up and down and celebrating at prospect of being in NYT and NG and just handing over your work...
- Put some terms in writing
- Unless you only allow sites to only link to or embed your original video, there is no 100% way to collect the total metrics for views as the video goes viral and spread across media and social media and if sites produce their own derivative videos or rip a copy of the video and play it on their own platforms ...

Hope: - Put something in writing even just an email; it could also be a short contract-like document stating what "attribution" means. Specifics, like, the number of seconds the attribution must show up in a video, how the attribution appears (filmed by A & B of such and such universities for such and such research), including a photo of researchers if that's what they want, etc. An institution could even create a template document for researchers to use. It seems like this might be something the media office at Universities might want to be involved with (to make sure they mention the University, for one).



Diving partners  
Allen and Akkaynak teamed up for a serendipitous find during their field research.  
*Roger Hanlon*



## **Thank You**

**Justine Allen, Derya Akkaynak, Alexandra K. Schnell, and Roger T. Hanlon**

**April Hathcock at NYU Libraries for her insights regarding copyright, fair use, and copyleft licenses**

**Joseph Rhoads, Ben Cail, and Ann Caldwell at Brown University Library for help with the ingest, modeling, relations, and catalog metadata for the video and data files in the BDR and distribution on YouTube**