Presenting a Poster

Ecology in English

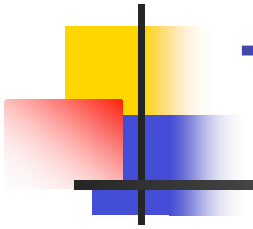
Master EBE, Orsay

Franck Courchamp

Ecologie Systématique Evolution

Université Paris Sud - Orsay

CNRS CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE



The first key rule

- Take all the advices and then do it as you see fit

Why do a poster?

- There are a lot of people with data to present, but time does not permit everyone to give a 10-15 minutes talk.
- There are sometimes several hundreds of posters in a conference, there is thus competition of time and attention.
- Presenting a good poster is essential to grab and maintain the readers' attention.

A Poster Is…
….More than Presenting Data

- Enables your contribution to a meeting
- A significant part of professional education
- Provides information
- Develops your experience
- Builds networks and contacts
- Tremendous source of feedback

Posters vs. Papers

- Papers are designed to appeal to readers of a scholarly journal, and to meet the *formal* organizational and informational requirements of publication.

- Posters are designed to appeal to peers and colleagues at conferences and/or public displays, and to meet the organizational and informational requirements of conferences and/or public displays.

Posters vs. Papers (2)

- The audience of a paper is a *person* ; the audience of a poster is *people* .
- A poster presentation allows for question-and-answer sessions, and the exchange of ideas and information regarding your research.
- A paper presents *all* the information; a poster presents the *most important* information.

The message

- Get right to the heart of the matter, and remember : *Keep It Simple!* In clear, jargon-free terms, your poster must explain
- 1) the scientific problem in mind (*what's the question?*),
- 2) its significance (*why should we care?*),
- 3) how your particular experiment addresses the problem (*what's your strategy?*),
- 4) the experiments performed (*what did you actually do?*),
- 5) the results obtained (*what did you actually find?*),
- 6) the conclusions *(what did you think it all means?),* and, optionally,
- 7) caveats (and reservations) and/or
- 8) future prospects (*where do you go from here?*).
- Be brief, and always stay on point

Before starting the poster

- Prepare and submit your abstract
- Determine the one essential concept you would like to get across to the audience.
- Learn about your audience

Starting the poster

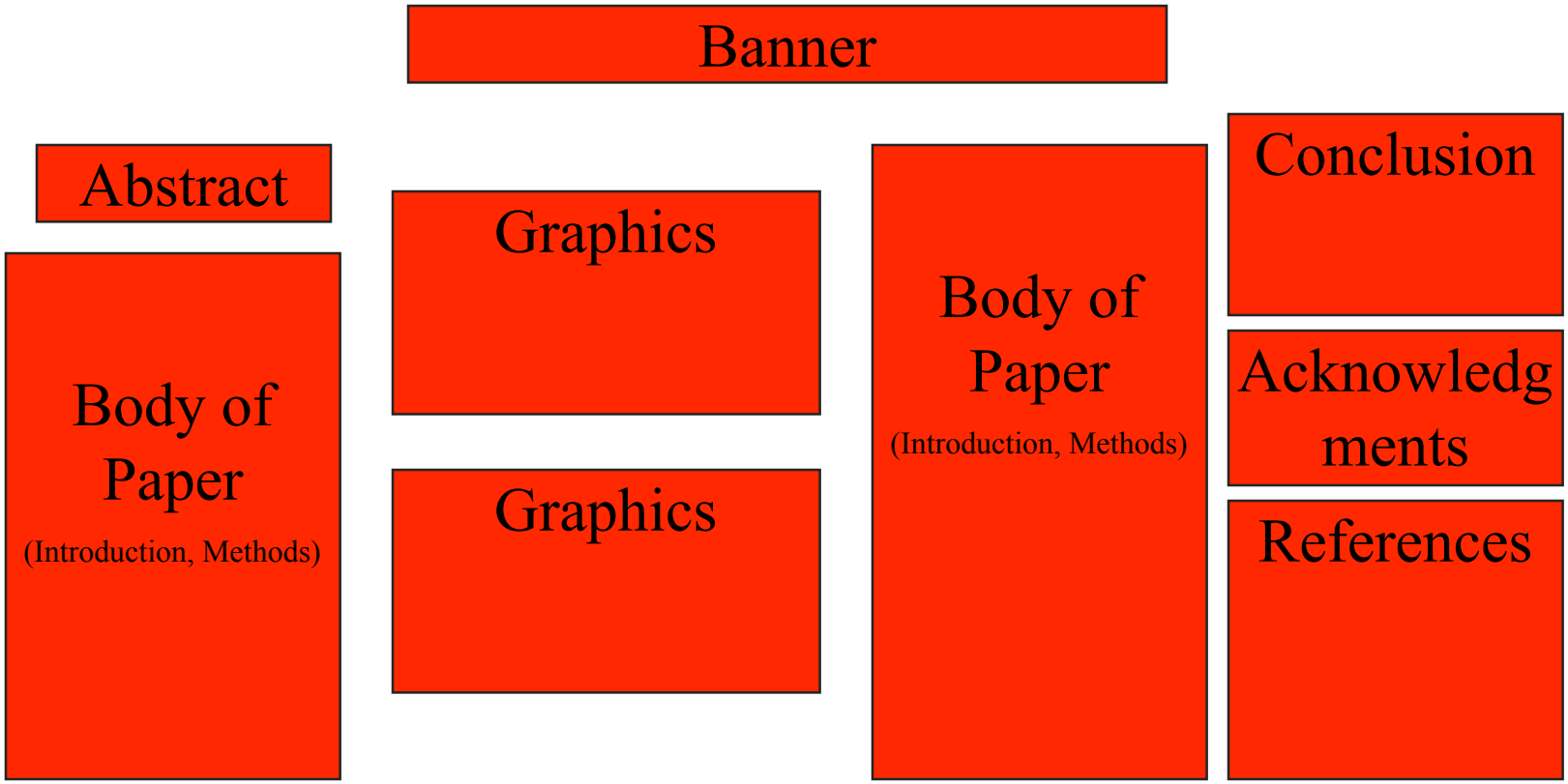
- First . . .READ THE INSTRUCTIONS supplied by the meeting organizers! Having an idea about these details before you begin will make the whole process much easier.

Elements of Your Poster

- Title
- Abstract
- Introduction
- Methods
- Data/Results
- Conclusions
- Acknowledgments
- References

Organization and Layout

- A general guide to poster layout:



Title that hints at the underlying issue or question and is formatted in "sentence case" (*i.e.,* not in "Title Case" and not in "ALL CAPS")

Your name(s) here
Department of Biology, Swarthmore College, Swarthmore, Pennsylvania 19081

Introduction

Materials and methods

Results

Conclusions

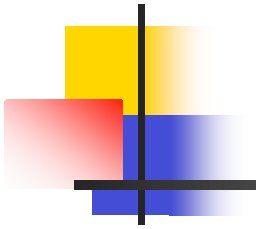
Literature cited

Acknowledgments

For further information

Sequencing the document

- The poster should use photos, figures, and tables to tell the story of the study. For clarity, it is important to present the information in a sequence which is easy to follow:
- Determine a logical sequence for the material you will be presenting.
- Organize that material into sections (Methods, Data/Results, Implications, Conclusions, etc.).
- Use numbers (Helvetica boldface, 36 - 48 points) to help sequence sections of the poster.
- Arrange the material into columns.
- The poster should not rely upon your verbal explanation to link together the various portions.



Organization and Layout

- Logistics:
  - Find out the size regulations before you begin
  - The standard is usually A0 but it may differ from meeting to meeting.

Organization and Layout

- Make it easy on your information-saturated audience.
- Remember the competition for attention
- Be concise and clear

Organization and Layout

- Fonts:
  - Use the same font style throughout the poster.
  - Remember to adjust the size according to the importance of the sections, and that people will be standing 2 meters away or more while reading your poster.
  - Use fonts that are simple and easy to read.
  - Add emphasis with bold, underline or color--italics are harder to read.

Fonts

- Don’t pick a font that's a pain to read. Don’t get too creative : no one wants to struggle through a poster in *Brush Script* or PORTAGOL or HERCULANUM or similar.

- Don’t vary the type sizes and/or typefaces excessively throughout the poster. For example, don’t use something different for every bit of text and graphics. Use different size for different headings

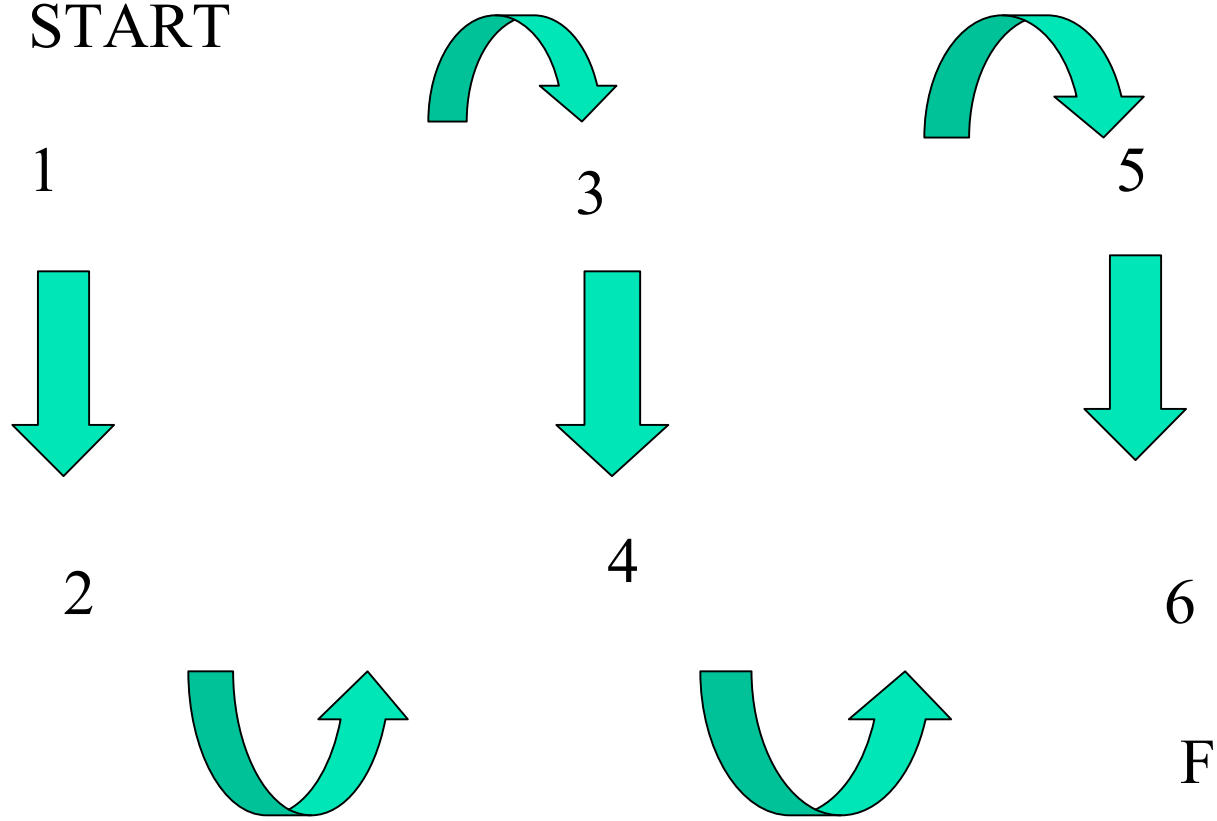
Layout

- Don’t make your reader jump all over the poster area to follow your presentation. Be consistent and help with numbers, arrows and logics
- Organize materials in either a columnar or counterclockwise fashion starting in the upper left corner
- Make section headings distinct from the body of your writing

Layout

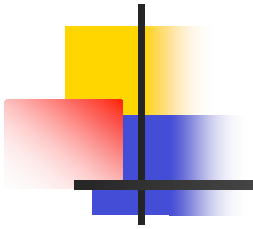
- Lay out the poster segments in a logical order, so that reading proceeds in some kind of linear fashion from one segment to the next, moving sequentially in a raster pattern.
- The best way to set up this pattern is columnar format, so the reader proceeds *vertically first*, from top to bottom, then left to right.
- This has the advantage that several people can be all reading your poster at the same time, walking through it from left to right, without having to exchange places.
- Consider numbering your individual poster pieces (1, 2, 3,...) so that the reading sequence is obvious to all.
- And always make sure that all figure legends are located immediately adjacent to the relevant figures

START



Readability

- Don’t use too small a typesize for your poster. *This is the single most common error*. Never ever, use 10- or 12-point type. Don't use it in your text, *anywhere*. Don't use it for captions. Don’t use it for figure legends, and annotations, footnotes, subscripts, or anything else. Don't *ever* use small type on a poster. Remember, no one ever complained that someone's poster was too easy to read. Got it?! Good!
- Use a typesize that can be read easily at a distance of ~2 meters or better. You do want a large crowd to develop around your poster, don't you? Think of 14-point type as being suitable only for the fine print and work your way up, (never down) from there. For text, 20-point type is about right. Not enough space to fit all your text? Then shorten your text!



Colours

- In addition to the background, use colors in your poster, and always try to use them in a way that helps to convey additional meaning.
- Select colors that draw attention but don't overwhelm. Make sure that the colors actually mean something and serve to make useful distinctions. Make sure that the color scale being used is tasteful, sensible, and above all, intuitive.
- Also. be mindful of color contrast when choosing colors; *never place isoluminous colors in close proximity* (dark red on navy blue, etc.), and remember that a lot of people out there happen to be red/green colorblind. Please remember this advice when you create color slides and transparencies as well

Elements of Your Poster

- Title
- Abstract
- Introduction
- Methods
- Data/Results
- Conclusions
- Acknowledgments
- References

Title banner

- Title
  - Catching, simple, able to be seen from 6 meters away. This is supposed to attract, so it needs to been seen from afar.
- Author(s)
  - The authors names may be printed smaller, at 72 points
- Institution
  - Affiliations can be even smaller, at about 36 - 48 points

The title

Think BIG!

- Make it descriptive: the reader should be able to decide quickly whether to read more or not. In case of doubt, he/she may walk to the next poster. Consider using a title that suggests some of your conclusions

Title sizes

- The most important parts of the title banner, the title itself, should be readable from about 6-7 meters away. Your title will lure viewers closer to see your imaginative and exciting study.
- The size of letters in the title itself should be a 96 point size.
- The rest of the poster, should be readable from about 3 feet away. A good way to check that is to print an A4 paper and see if you can read everything at arm length.

Title

- It should never occupy more than two lines. If things don't fit, shorten the title; don't reduce the typesize.
- Titles in all capital letters are harder to read.
- Some people put a photo of them next to the title. Either an ID photo, or a photo in working situation. Or a funny photo. It is very practical for the audience to find the author of the poster.

Names and affiliations

- Put the names of all authors and institutional affiliations just below your title.
- Don't use the same large type size as you did for the title; use something smaller and more discreet. This is not the cult of personality.
- Author(s)
  - It's a nice touch to supply first names rather than initials
  - Drop titles (PhD) and middle initials
- Institution
  - Institution and department.
  - City names and state names can be dropped.

Abstract

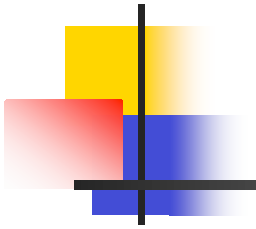
- Not always needed. A poster is short already, so if you really think you need one, may it ultra-short
- Identify what is being studied, how you are studying it, and what your variables are.
- Identify your hypothesis.
- State your findings.

Introduction

- Avoid to put a huge chunk of text. One or two short paragraphs
- Less *in-depth* than an introduction for a paper. Bring the reader up to date on your topic and establish the importance of your own research
- Highlight and focus on:
  - Questions raised and answered by previous research.
  - The question you are asking and why you are asking it.

Methods

- Prefer figures and diagrams to text.
- Present only the basics--your audience isn't trying to replicate your study at this moment, they just want to know basic experimental design.



Data/Results

- Again, be concise
- Use graphic/visual elements:
  - Tables
  - Charts
  - Pictures
  - Graphs

Data/Results

- Include a descriptive label for each graphic.
- Below each graphic include a brief written description of what the graphic is and the interpretation of its data.

Conclusion

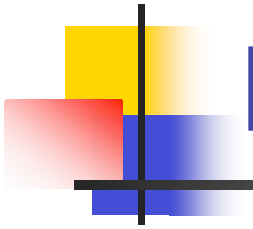
- Be concise and clear.
- Highlight:
  - What you found, and its importance.
  - Parallels and discrepancies with previous research and theory.
  - The direction of future research.

Acknowledgments

- Acknowledge those professionals and research assistants that contributed to your study, and the funding if any.
- Be brief.
- This section is not a requirement.

References

- Here again, not required but helpful
- Use the same references as in your original research paper.



Before you go any further…

- Save & back up your work!
- Don't say I didn't warn you . . .

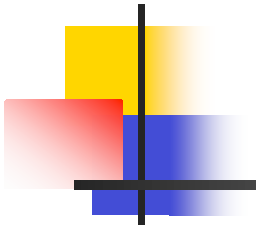
Aesthetic Issues

- Color:
  - Used effectively, color is an effective method of attracting people to your poster.
  - If you use color, stick to using a set number of colors in a consistent pattern.
  - Limit your color use to 2-3 colors.

Aesthetic Issues

- Use contrasting colors for readability and a professional look.
- Sometimes a photo (light version) is used as a background. This is really nice, but make sure it is 1/ light enough so that the text can be read easily 2/ of high quality so that it can be enlarged without being pixelised

(it is not the case here!)



Aesthetic Issues

- Layout:
  - Limited space doesn’t mean you can cram things together.
  - Use a consistent spacing rule between each element of your poster.
  - Try to align corners along vertical and horizontal lines.
  - Use graphics, but only those that are necessary

Edit!

- Don’t ever expect anyone to spend more than 3-5 min at your poster. If you can't clearly convey your message pictorially in less time than this, chances are you haven't done the job properly
- **There ALWAYS is too much text in a poster.**
- Posters primarily are visual presentations; the text materials serve to support the graphic materials.
- Look critially at the layout. If there is about 20% text, 40% graphics and 40% empty space, you are doing well.
- When in doubt, rephrase that text or delete it. (Keep chanting this mantra: There *always* is too much text. *Always* too much text.)
- Use active voice when writing the text; *It can be demonstrated* becomes *The data demonstrate*.
- Delete all redundant references and filler phrases, such as *see Figure ...*

Edit Ruthlessly!

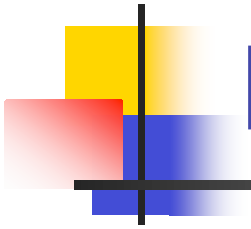
- Remove all material extraneous to the focal point of the poster.
- Since the abstract is usually published, there is no need to repeat it in the poster. The brief introduction should be sufficient to identify the purpose of the study.
- Same for References and Acknowledgments: you can often do without
- Since graphs & figures will have explanatory captions, there is no need to label the graphic with *Figure 1, Table 2*, etc.
- The poster is not a publication of record, so excessive detail about methods, or vast tables of data are not necessary. This material can be discussed with interested persons individually during or after the session, or presented in a handout.

Visual impression

- Restrained use of large type and/or colored text are the most effective means of emphasizing particular points.
- Use short sentences, simple words, and bullets to illustrate discrete points.
- Justify the paragraphs. This makes reading the poster less difficult.
- Avoid using jargon, acronyms, or unusual abbreviations.

Visual impression (2)

- Remove all non-essential information from graphs and tables (data curves not discussed by the poster; excess grid lines in tables)
- Label data lines in graphs directly, using large type & color. Eliminate legends and keys.
- Artful illustrations, luminous colors, or exquisite computer-rendered drawings do not substitute for CONTENT.
- Lines in illustrations should be larger than normal. Use contrast and colors for emphasis.
- Use colors to distinguish different data groups in graphs. Avoid using patterns or open bars in histograms.
- Use borders around each figures. Border colors can be used to link related presentations of data.



Personal touch

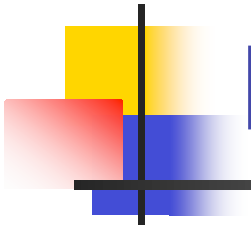
- Use some original/personal points
- A poster is a 2D presentation, but you can use the third dimension (flaps, wheels, moving arrows, etc…).
- For example, colored transparency overlays are useful in comparing/contrasting graphic results
- Make sure that it doesn't detract from the science or trivialize your work in some way. Use good judgment here.

Don’t ever

- Don't ever supply long tables; no one has the time or inclination to wade through these.
- Don't ever lift long sections of text directly from some manuscript and use these as a part of your poster. A poster is not a worked-over manuscript.
- Don’t forget typos and spelling errors, use a spell checker (it works on Powerpoint!)

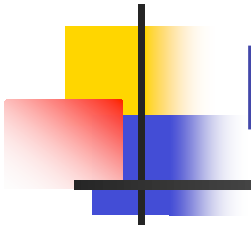
Oh, and don’t Forget…

- You will be talking to others, and talking with others, about your poster. Prepare how to explain things
- Bring a copy of your original paper for reference.
- Bring A4 copies of your poster and prepare a display so that people can take them.
- Put your email address on your poster, as well as a website if you have one



Plan ahead!

- You have probably heard this again and again. That is because it is ***IMPORTANT!***



Plan ahead! (2)

- With an increasing reliance placed upon poster presentations for information transfer at meetings, there comes an increased impatience with poorly presented materials.
- Although the poster preparation will expand to fill whatever time you allow it, don't be caught with an unfinished poster!
- Planning ahead is particularly important if you want to have the poster printed in one piece (highly recommended, and assumed in the following)

Plan ahead! (3)

- Preparing a poster will take as much time as you let it. Allocate your time wisely.•There are always things that go wrong, so do not wait until the last minute to do even a simple task.
- This is a public presentation; by planning carefully, striving to be clear in what you say and how you say it, and assuming a professional attitude you will avoid making it a public spectacle.
- If you have little experience making posters, it will take longer (estimate 1 week at the minimum).
- Too much lead time, however, encourages endless fussing about. Do the poster to the best of your ability, then go do something else.

The poster session

- There is always one (or several) session reserved to view the posters and discuss with their authors.
- It is important to optimize this time: your poster is essential, but the PRESENTATION of your poster is at least as much so

The poster session (2)

- Don’t stand directly in front of your poster at the session, or get too close to it. Don't become so engrossed in conversation with any single individual that you (or they) accidentally prevent others from viewing your poster
- Try to stay close by, but off to the side just a bit, so that passers-by can see things also so that you don't block the vision of people already gathered 'round

The poster session (3)

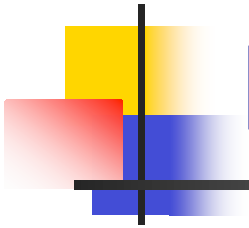
- Don’t be an eager beaver and badger the nice people who come to read your poster
- Give them some space. Allow them to drink it all in. If they engage you with a question, then that is your opening to offer to take them through the poster or discuss matters of mutual scientific interest. Conversely, don't ignore people who look as though they may have questions, especially by becoming engrossed in talking to all your buddies

The poster session (4)

- Stick around. It's your poster, your- work. Your boss paid you the trip to whatever so that you could present it. It’s not the time for you to go for a beer. Try to hang around for as long as you can.

The poster session (5)

- Be a good scout, and come prepared to your poster, armed with reprints of any of your own relevant papers that you might have, plus extra copies of any material you may wish to share. Have ready some cards, or slips of paper you can use to provide colleagues with your address (e-mail address). Posters are a terrific way to get scientific suggestions and meet like-minded individuals. And postdoc propositions. Don’t oversell these though.
- Knowing who will be there (so as to recognize names and remember a bit about the names and research of the big cheeses) can be quite helpful and avoid embarrassment

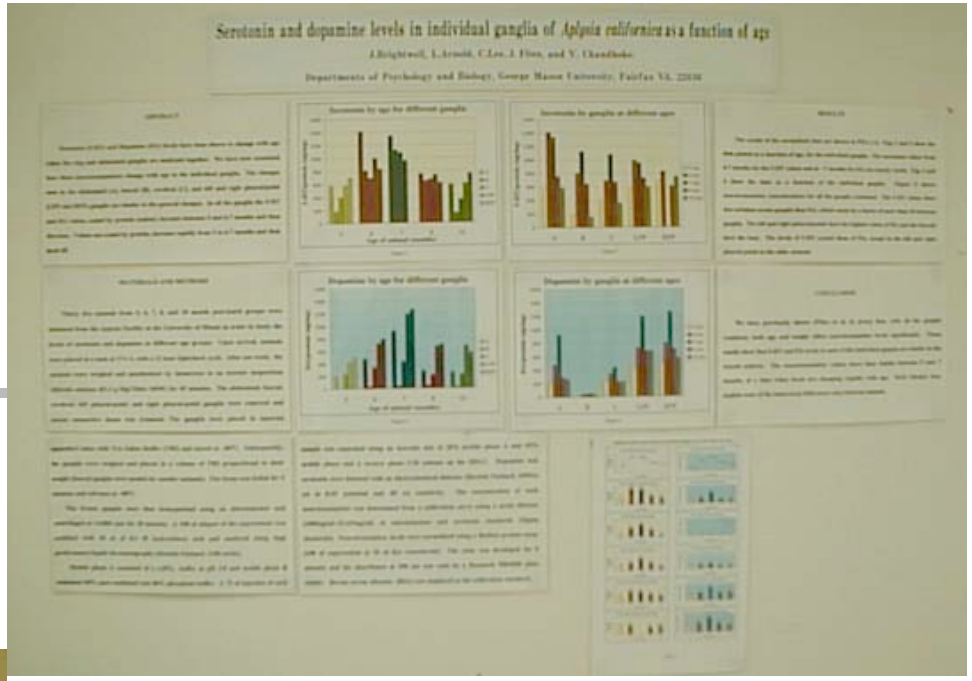


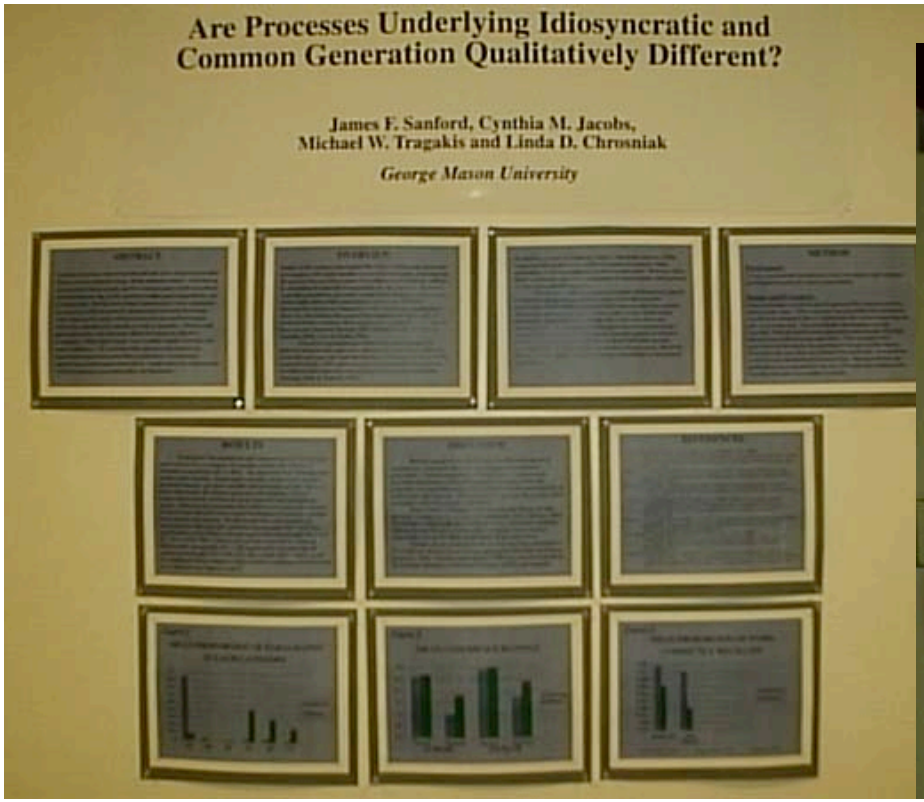
Evaluation

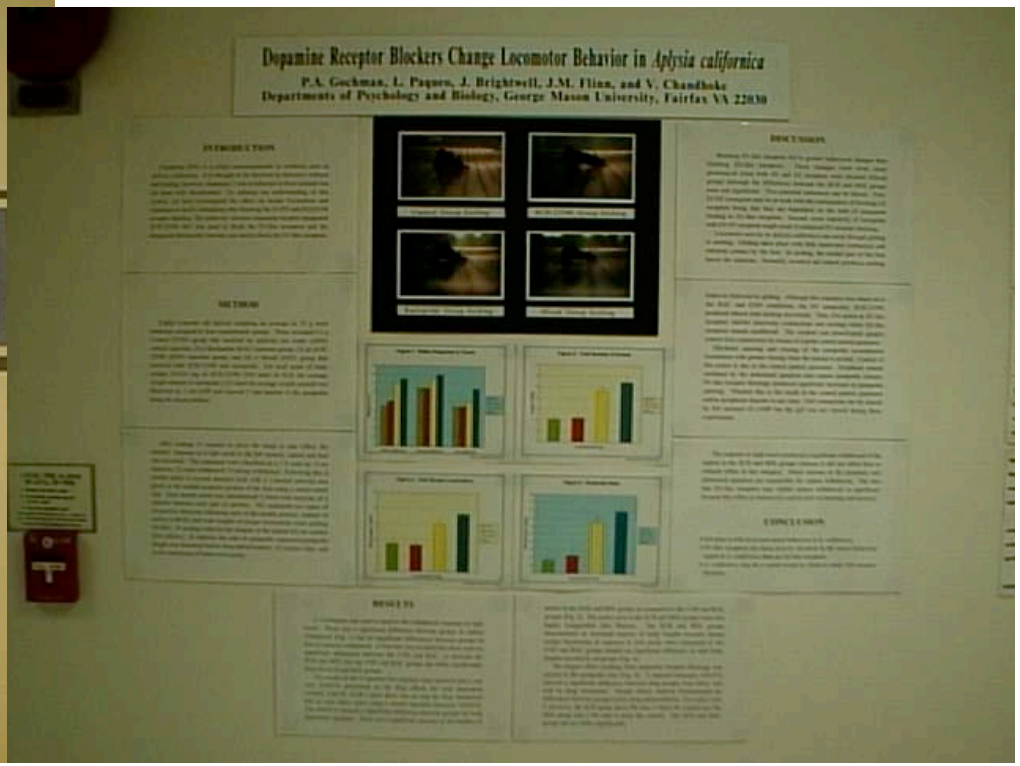
- based on five criteria:
  - visual attractiveness,
  - quality of information,
  - relevance,
  - originality,
  - balance of text, graphics, and illustrations.

Examples

(don't know the authors, found them on the Internet)

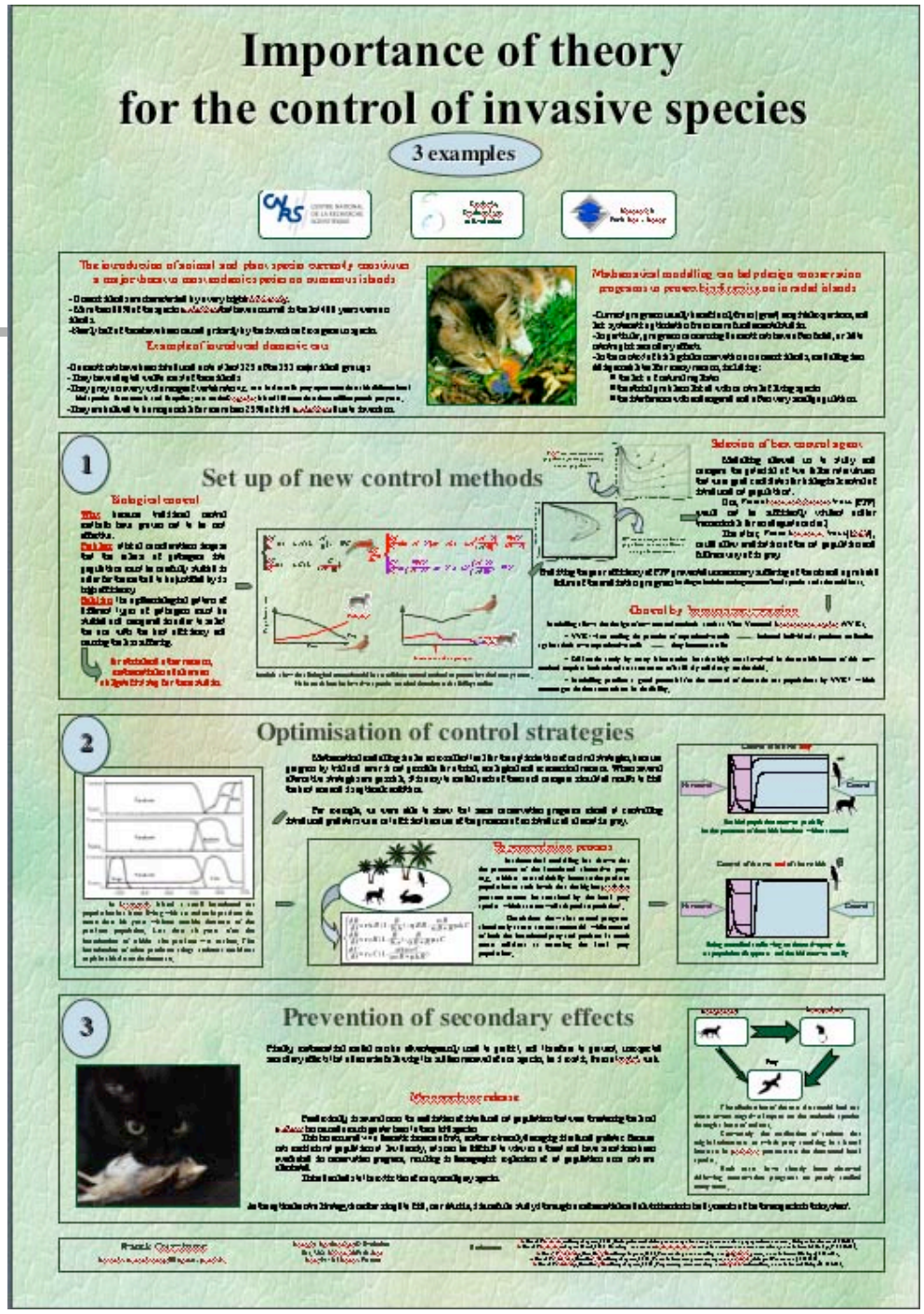






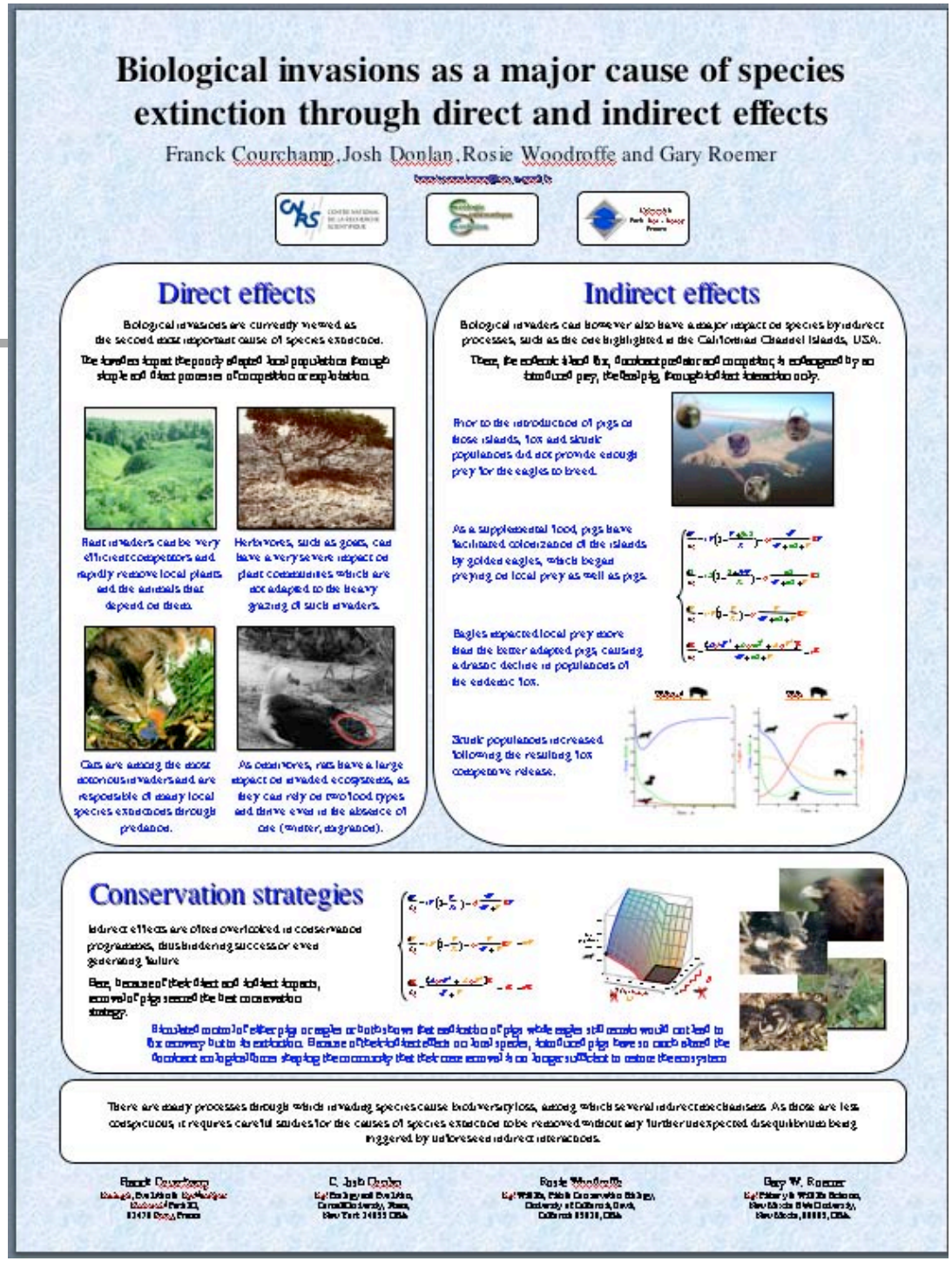
Examples

A good example …
…of a bad poster



Examples

- A little better



Biological invasions as a major cause of species extinction through direct and indirect effects

Franck Courchamp, Josh Donlan, Rosie Woodroffe and Gary Roemer

Direct effects

Biological invaders are currently viewed as the second most important cause of species extinction.

The invaders impact the poorly adapted local population through simple and direct processes of competition or exploitation.

Plant invaders can be very efficient competitors and rapidly remove local plants and the animals that depend on them.

Herbivores, such as goats, can have a very severe impact on plant communities which are not adapted to the heavy grazing of such invaders.

Cats are among the most notorious invaders and are responsible of many local species extinctions through predation.

As omnivores, rats have a large impact on invaded ecosystems, as they can rely on two food types and thrive even in the absence of one (winter, stagranon).

Indirect effects

Biological invaders can however also have a major impact on species by indirect processes, such as the one highlighted in the California Channel Islands, USA.

There, the endemic island fox, dominant predator and competitor is endangered by an introduced prey, the feral pig, through indirect interaction only.

Prior to the introduction of pigs on those islands, fox and skunk populations did not provide enough prey for the eagles to breed.

As a supplemental food, pigs have facilitated colonization of the islands by golden eagles, which began preying on local prey as well as pigs.

Eagles impacted local prey more than the better adapted pigs, causing a drastic decline in populations of the endemic fox.

Skunk populations increased following the resulting fox competitive release.

Conservation strategies

Indirect effects are often overlooked in conservation programmes, thus hindering success or even fostering failure.

Here, because of their direct and indirect impacts, removal of pigs seemed the best conservation strategy.

Simulated models of either pig or eagles or both show that eradication of pigs while eagles still remain would not lead to fox recovery but to its extinction. Because of their indirect effects on local species, introduced pigs have so much altered the functional ecological niches shaping the community that their mere removal is no longer sufficient to restore the ecosystem.

There are many processes through which invading species cause biodiversity loss, among which several indirect ones/chains/sets. As these are less conspicuous, it requires careful studies for the causes of species extinction to be removed without any further unexpected disequilibrium being triggered by unforeseen indirect interactions.

Franck Courchamp
Josh Donlan
Rosie Woodroffe
Gary W. Roemer

Examples (much better)

Endangering the endangered: how the value we place in rarity can trigger extinction

RICHARD HALL*, Elena Angulo, Philippe Rivalan, Leigh Bull, Laetitia Signoret, Yves Meinard, Franck Courchamp
Ecologie, Systematique et Evolution, Universite Paris-Sud XI, Orsay, France. *Email: richard.hall@ese.u-psud.fr

1. Context

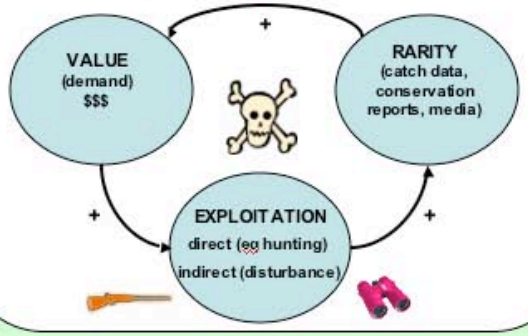
Humans associate value with rare items (eg diamonds). Rare species are also disproportionately valued

Economic theory predicts that human exploitation should not lead to species extinction, due to the rising costs of finding the last individuals

However, if a species' value increases with its rarity, exploitation is sustained even at low population levels. This may result in species extinction

2. The Anthropogenic Allee Effect (AAE)

Key idea: A positive feedback between species rarity and economic value can drive species into an extinction vortex

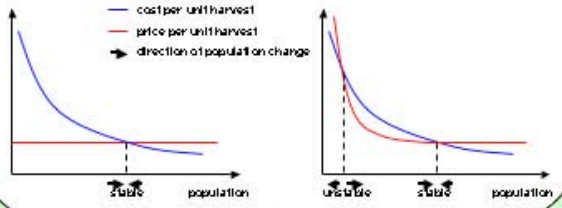


3. A simple model for poaching predicts the conditions for extinction

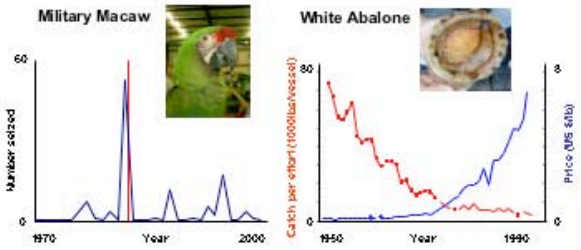
The Gordon-Schaeffer model for open-access exploitation was used to test the effect of a rarity-dependent market price on the equilibrium exploited population size (where the cost per unit harvest equals the price per unit harvest)

When price is independent of rarity, hunting does not result in extinction

When price increases faster than exploitation costs at low population levels, extinction occurs (AAE)



4. Data suggests value and rarity are linked



Illegal trade peaks when species is 'officially' declared rare (red line indicates change in CITES status)

Decrease in commercial catch leads to a corresponding increase in price

5. Activities which could lead to an AAE

Trophy hunting

Hobby collections

Exotic pet trade

Wildlife-watching

6. Conclusions

Rarity itself can trigger overexploitation and species extinctions. Prevention strategies must focus on the three components of the feedback loop:

RARITY - Regulate how much information on species abundance is available in the public domain

VALUE – Change the perception that owning goods derived from rare species conveys wealth and social standing

EXPLOITATION – Increase fines and jail sentences for illegal hunting and disturbance

(a very good one)

USING STABLE ISOTOPES TO CHARACTERISE TROPHIC RELATIONSHIPS

Caut Stéphane & Courchamp Franck

Écologie, Systématique & Évolution, Université Paris-Sud XI, ORSAY F-91405 CEDEX

stephane.caut@ese.u-psud.fr franck.courchamp@ese.u-psud.fr

1

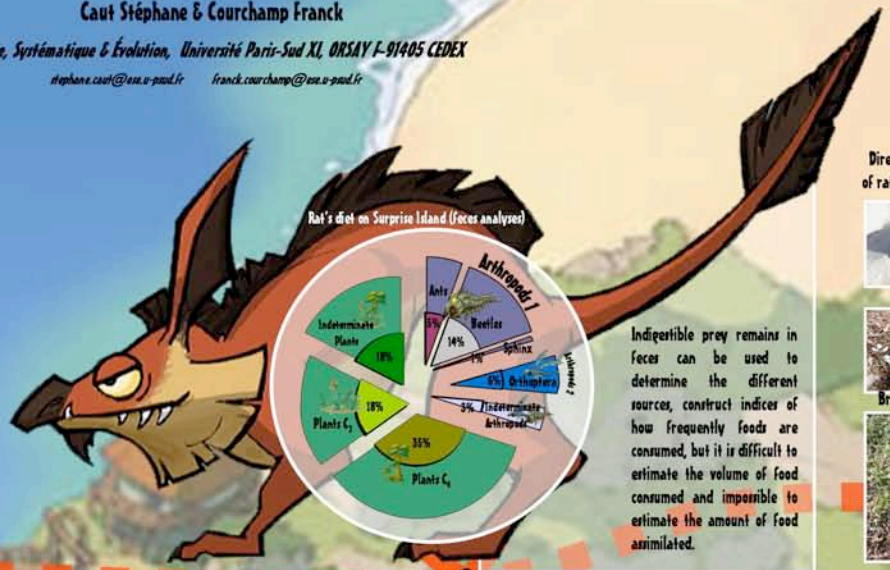
Interspecific interactions are often difficult to elucidate, when diet breadth is important. Recent advances in analysis of stable isotopes have demonstrated the utility of this technique for studying trophic interactions. We are interested in characterising the impact of rats introduced into an insular (i.e. closed) ecosytem. In this regard, we combined studies based on isotopic and classical diet analysis.

2

Surprise Island

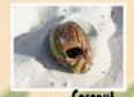
We selected the study site so that the characterisation of the entire ecosystem was feasable. We chose to work on Surprise Island a 24 ha island, off New Caledonia, where we conducted classical diet analysis of the introduced rat.

3



Indigestible prey remains in feces can be used to determine the different sources, construct indices of how frequently foods are consumed, but it is difficult to estimate the volume of food consumed and impossible to estimate the amount of food assimilated.

Direct observations of rat's consumption



Coconut

Brown Booby egg

Arena roots

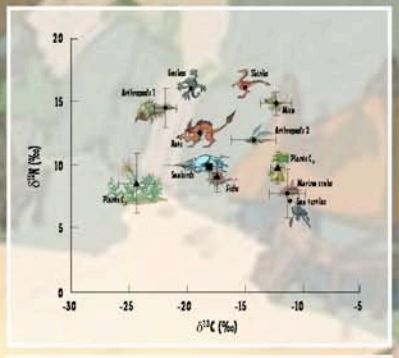
4

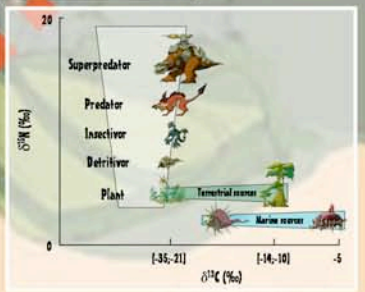
We thus sampled each species for isotope analysis:

Carbon ($\delta^{13}C$) and nitrogen ($\delta^{15}N$) are the most widely used isotope ratios for identifying diet sources.

- Carbon isotopes permit distinction between the consumption of marine vs. terrestrial prey.

- Nitrogen isotopes are used to determine diet source and also trophic position ($\delta^{15}N$ increased by 3-4‰ per trophic level).

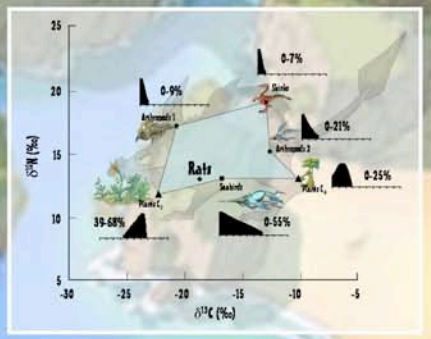




5

But the isotope analysis must be complemented by conventional techniques (dietary analyses based on stomach contents, feces contents or direct observations) to select actually eaten ressources.

6



Once the isotopic values of all potential ressources are determined and actual ressources are identified, a mathematical model can calculate the distribution of feasible contribution from each source to the rat diet. Seabirds and plants appeared constitute the majority of the diet.

On Surprise Island introduced rats prey mainly on seabirds and plants. When combined with conventional techniques for quantifying diet and detailed investigation of predator-prey interactions, stable isotope analysis can a powerful tool for determining potential impact of invasive species on native communities. However, this method needs to be complemented by classical died analyses. In addition, several factors provide challenges to inferring species interactions (geographic variation in isotopic signatures, differential isotope fractionation, tissue routing, animal condition, and diet breadth…).

Now your turn: good luck!

- Optional work:
- You will use the article that you present tomorrow to make a poster
- You will make it in Powerpoint and email it directly to me
- You have until next year (send it to me the day after the holidays, at the latest)
- Remember to print an A4 version to get a visual impression
- It will not be marked, but I will send you some comments

Presentation partly based on documents by:

- Casey Flinn
  - George Mason University, Writing Center
- Steven M. Block
  - Department of Molecular Biology, Princeton University, USA
- Joan M. Lakoski, Ph.D.
  - Department of Pharmacology, Office of Academic Career Development, University of Pittsburgh
- And other untraceable sources…