FORESTRY AND ANT CONSERVATION

Why you should care about six legged scuttling things that occasionally eat your lunch.

THE ANTS YOU PROBABLY ALREADY KNOW ABOUT

ponotus vicinus Mayr.
penter Ant)

Solenopsis Invicta
Buren. (RIFA)

Linepithema humile Mayr. (Argenti
Ant)

ASK NOT WHAT YOU CAN DO FOR THE ANTS…

- Predation/biological control
- Wood decomposition
- Soil aeration
- Soil nutrition
- Seed distribution

- The importance of diversity

KICKING THE ANT-HILL

- Disturbances
  - Natural vs anthropogenic
  - Frequency/magnitude
- Patch size and edge effects
  - The matrix
- Ant attacks!
  - Competitive displacement
  - Ant wars

WE'RE GOING ON AN ANT HUNT!

- 2 Sites, 4 biomass treatments, 4 soil treatments (not applied before my traps went in).
  - Biomass treatments replicated four times at each site
  - One line of traps in each replicate: three pitfall traps, one panel trap, one yellow Japanese beetle trap
- Everything in the traps sorted into Orders, thence Coleopteran diversity quantified at the Family level, and workers from the Formicidae (ants) at the Genus level.
- Calculated indices of diversity (Species Diversity Shannon, Simpson, Simpson Evenness) for each trap. Data transformed as necessary and analysed using a combination of ANOVAs and GLM's with quassipoisson errors.

HMM. . .

1. Initial post-treatment data is likely to show more activity in areas where the treatments have caused a disturbance.
2. There will probably be an initial rise in species diversity, followed by a dip, and thence another rise (which may not be seen in the timeframe of this study).
3. Species assemblages in plots to which treatments have been applied are likely to change in a treatment dependent manner.
4. Genera that form nests in litter, acorns etc. will be initially be extirpated from disturbed plots or greatly reduced in number.
5. Invasive species, if present, may increase in numbers and come to dominate the species assemblages of disturbed plots.
6. Areas where a large supply of biomass has been provided will probably favour *Camponotus spp.*

WHAT WE HAVE SO FAR-1

- Not an awful lot…
  - Trap type is very important.

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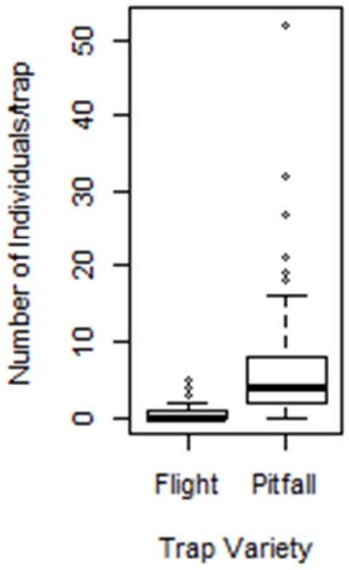

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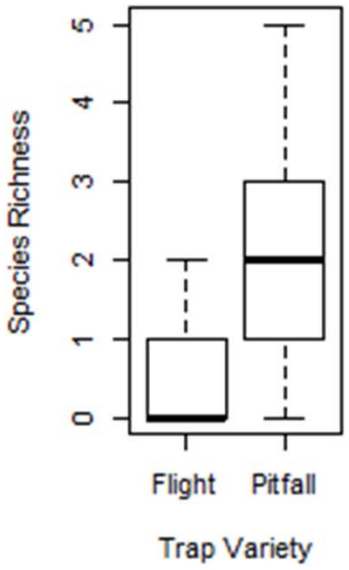

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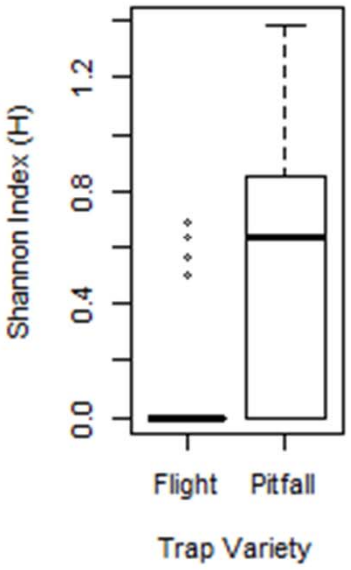

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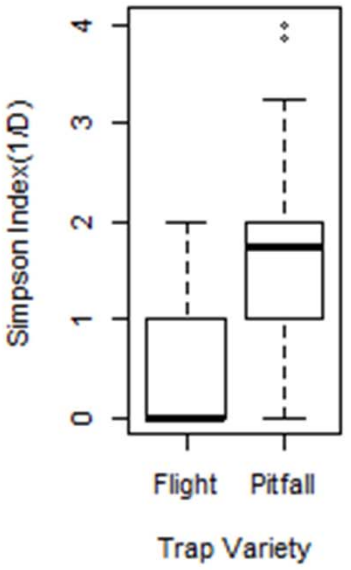

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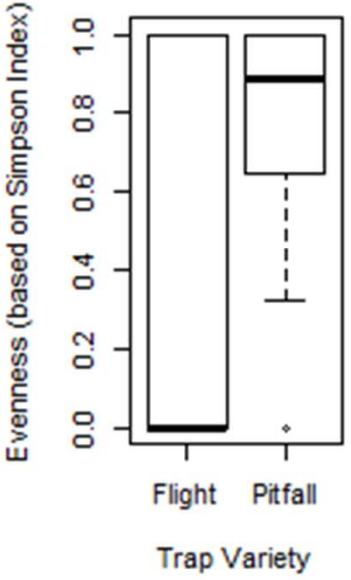
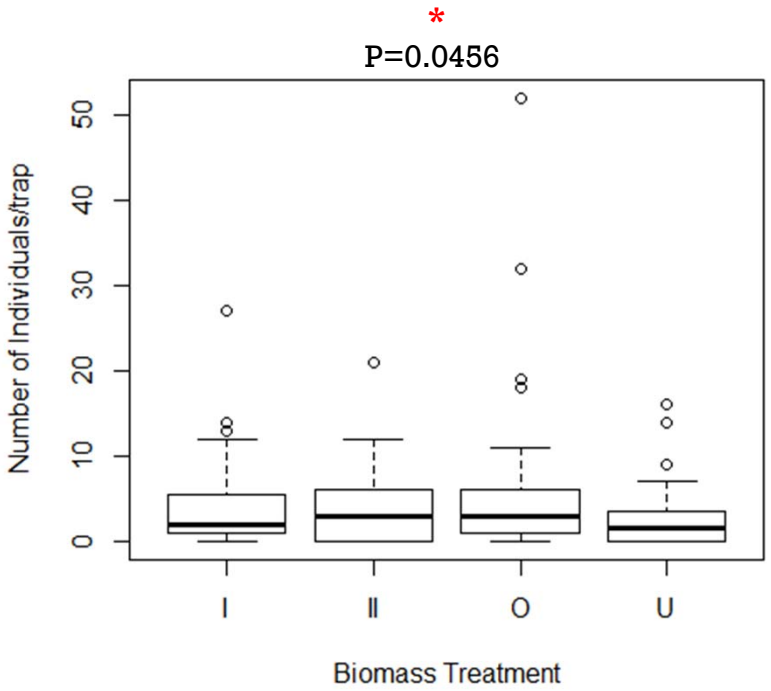


WHAT WE HAVE SO FAR-2

- The only variable that the treatments have immediately affected is the number of ants per trap.



WHAT WE HAVE SO FAR-3

Myrmica rubra

Tetramorium caespitum

I'm still working on the statistics…

CONCLUSIONS

- So far the results we have are consistent with the initial responses to a disturbance.
  - Increased activity.
- There are invasive non-native species present at the site.
- It's early days yet; the sort of changes we're likely to see may not show up for a couple of growing seasons.

ACKNOWLEDGEMENTS

- Our principle funding source – USDA AFRI
- Site owners – Potlach Logging Company, University of Idaho (Go Vandals!)
- The University of Idaho PSES department
- The Intermountain Forest Tree Nutrition Co-operative
- My committee – Dr Stephen Cook, Dr Mark Coleman, Dr James B. "Ding" Johnson, Dr Deborah Page-Dumroese.
- William F. Barr Entomological Museum - Frank Merickel
- Laine, Cludia, Kendra, Bill, Ben, Steve.
- The forestry students and professional foresters who helped perform the site prep.

Thank you for inviting me to speak.