

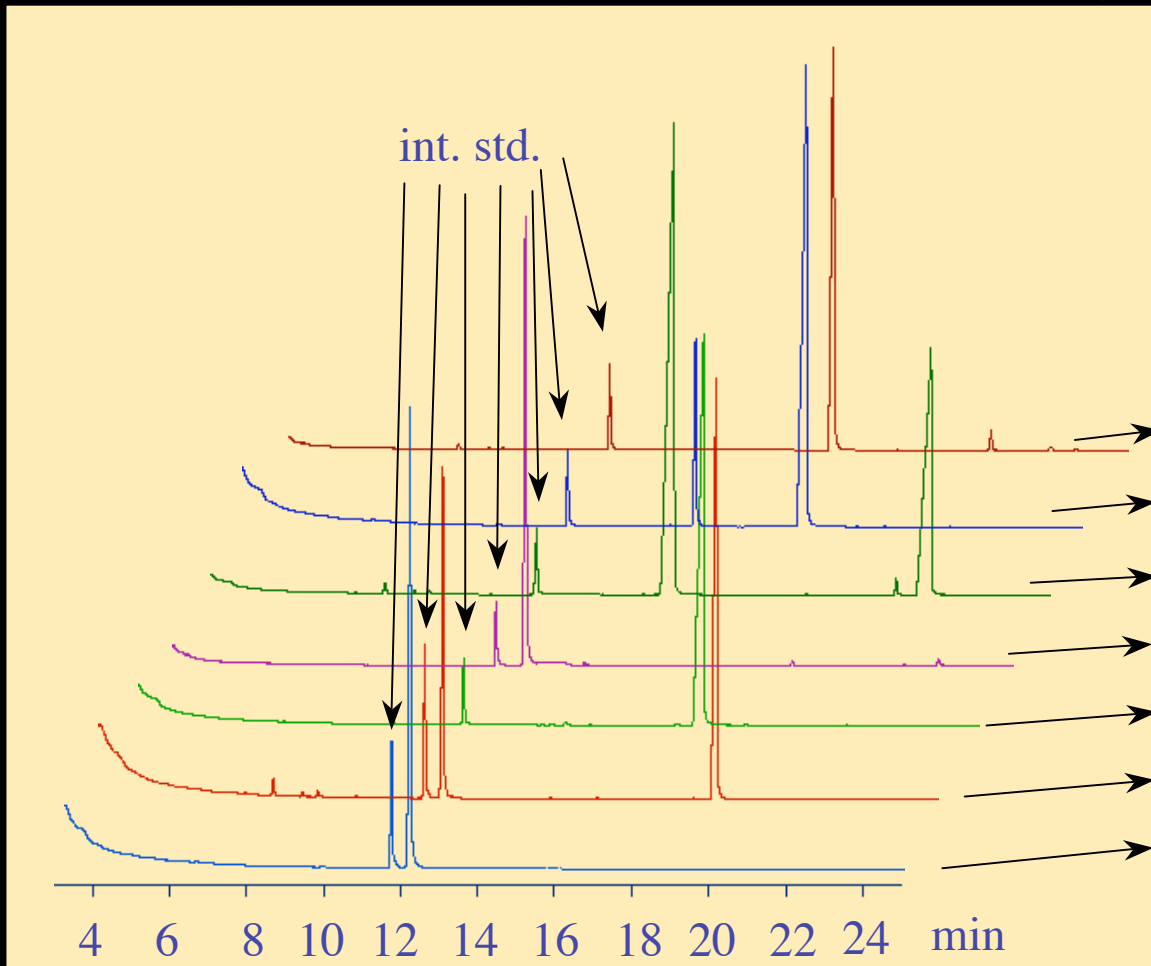
Pheromonal communication in European pest click beetles (Coleoptera: Elateridae): overview of research in Hungary

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# Structure elucidation of pheromone components

GC analysis of pheromone gland extracts of some click beetles (Col., Elateride) (after Tóth et al., 2002, 2003)



Contribution by our team:

● structure first identified

● improving activity of known composition

● known composition confirmed

● *A. ustulatus*

● *A. obscurus*

● *A. sordidus*

● *A. litigiosus*

● *A. lineatus*

● *A. brevis*

● *A. sputator*

● *A. rufipalpis*

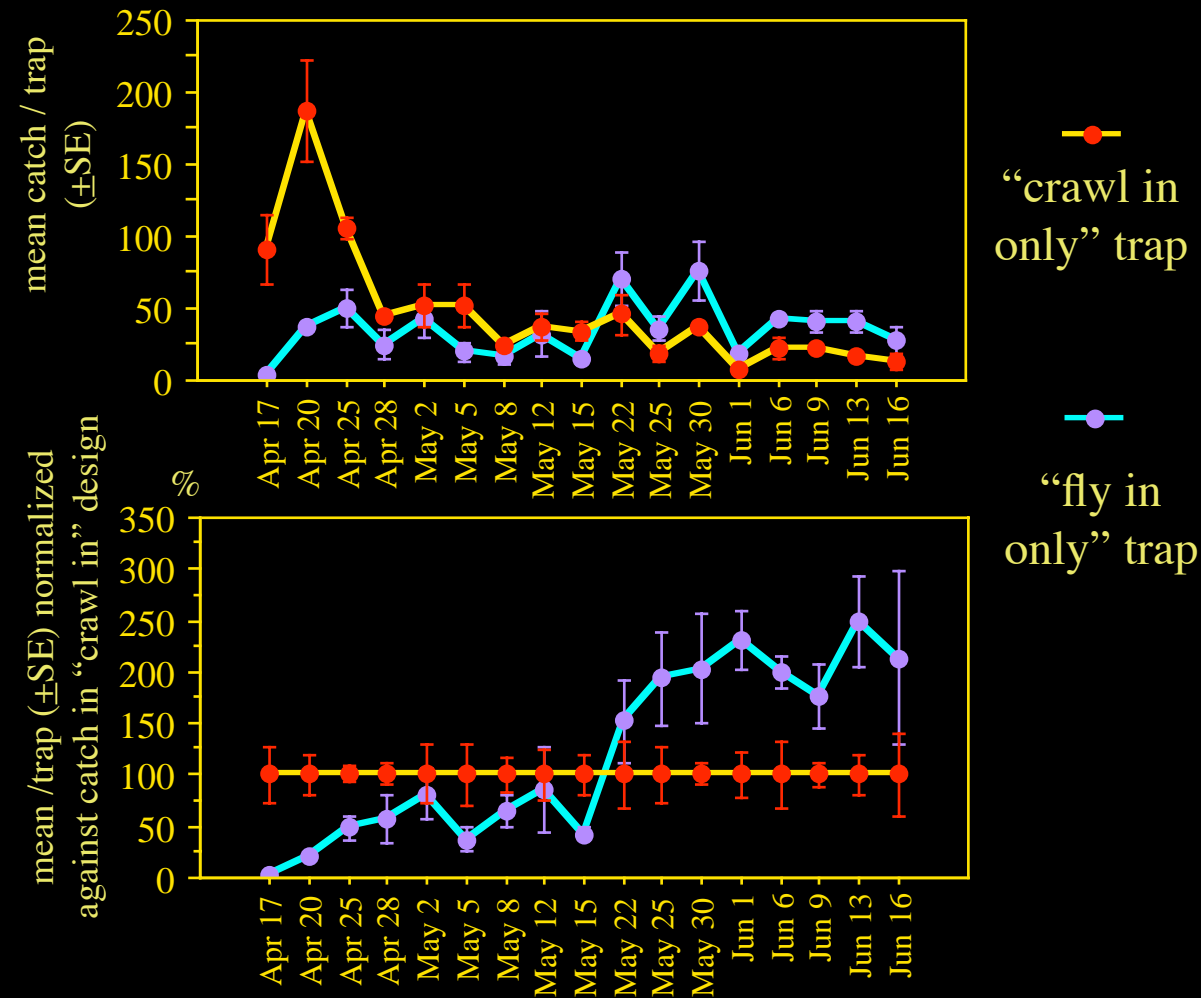
● *A. proximus*

# Optimal trap design

Solution: the YF click beetle trap (Furlan et al., 2004)

Catches of *A. sputator* in “crawl in” and “fly in” traps baited with the pheromone.

Agárd, Hungary, 2000. Total caught in test: 5527 beetles



# *Europe-wide distribution*

Some baits were specific

*A. ustulatus* bait.

(*E,E*)farnesyl acetate

1998 - 2006

- *ustulatus* catches
- no catch



# *Europe-wide distribution*

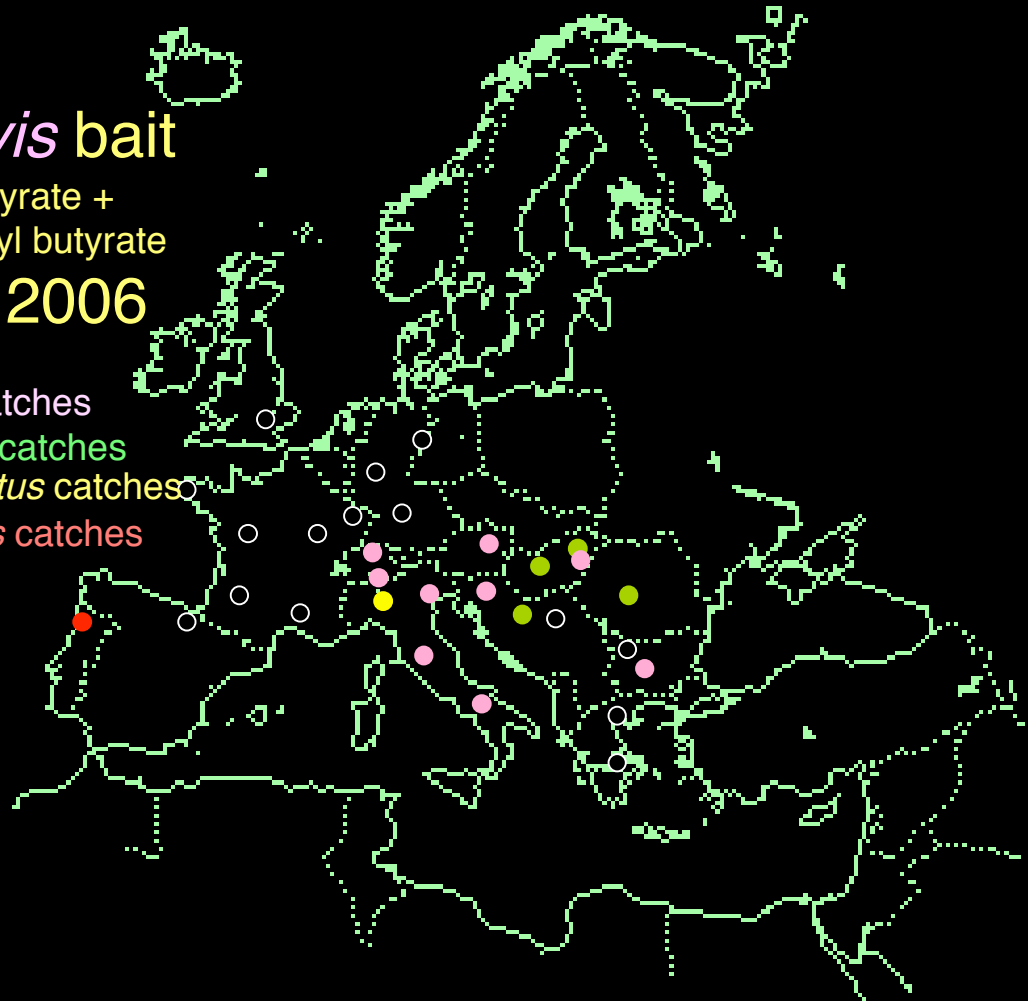
Some baits with cross attraction (minor components in common)

## *A. brevis* bait

Geranyl butyrate +  
(*E,E*)farnesyl butyrate

1998 - 2006

- *brevis* catches
- *sputator* catches
- *acuminatus* catches
- *proximus* catches
- no catch



# “Twin” species

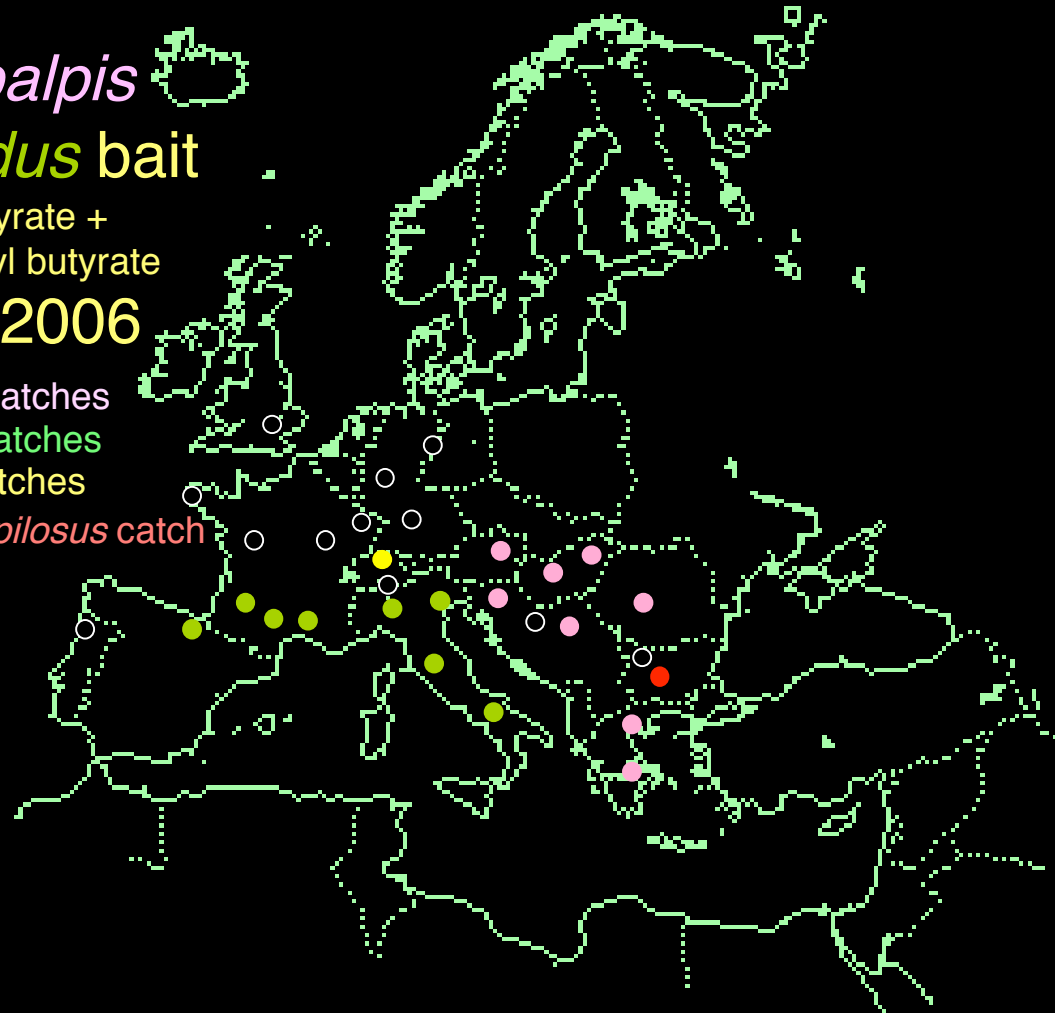
*A. rufipalpis*

/ *sordidus* bait

Geranyl butyrate +  
(*E,E*)farnesyl butyrate

1998 - 2006

- *rufipalpis* catches
- *sordidus* catches
- *gallicus* catches
- *Cidnopus pilosus* catch
- no catch



# “Twin” species

*A. lineatus*

*I. proximus* bait

Geranyl octanoate +  
geranyl butyrate

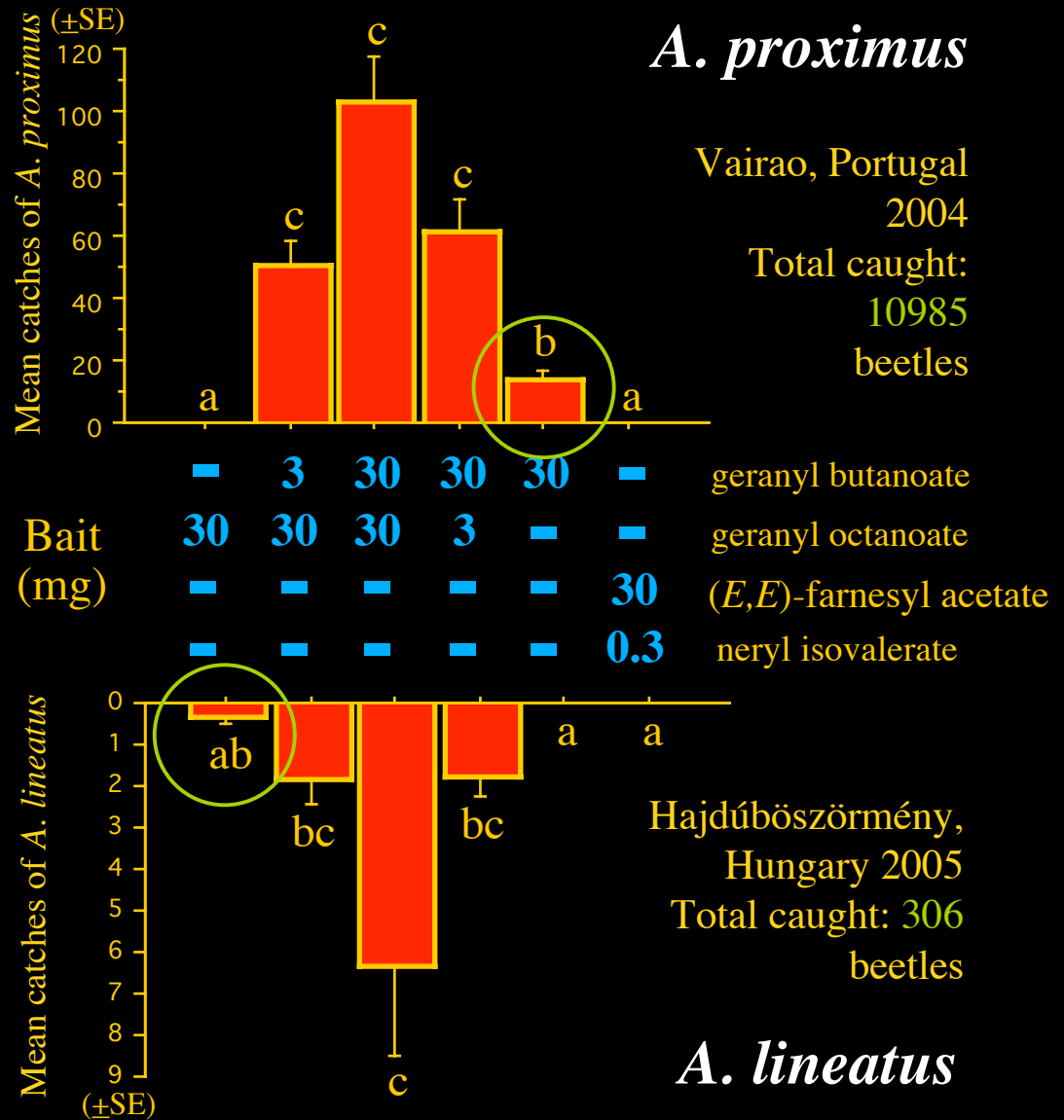
1998 - 2006

- *lineatus* catches
- *proximus* catches
- no catch

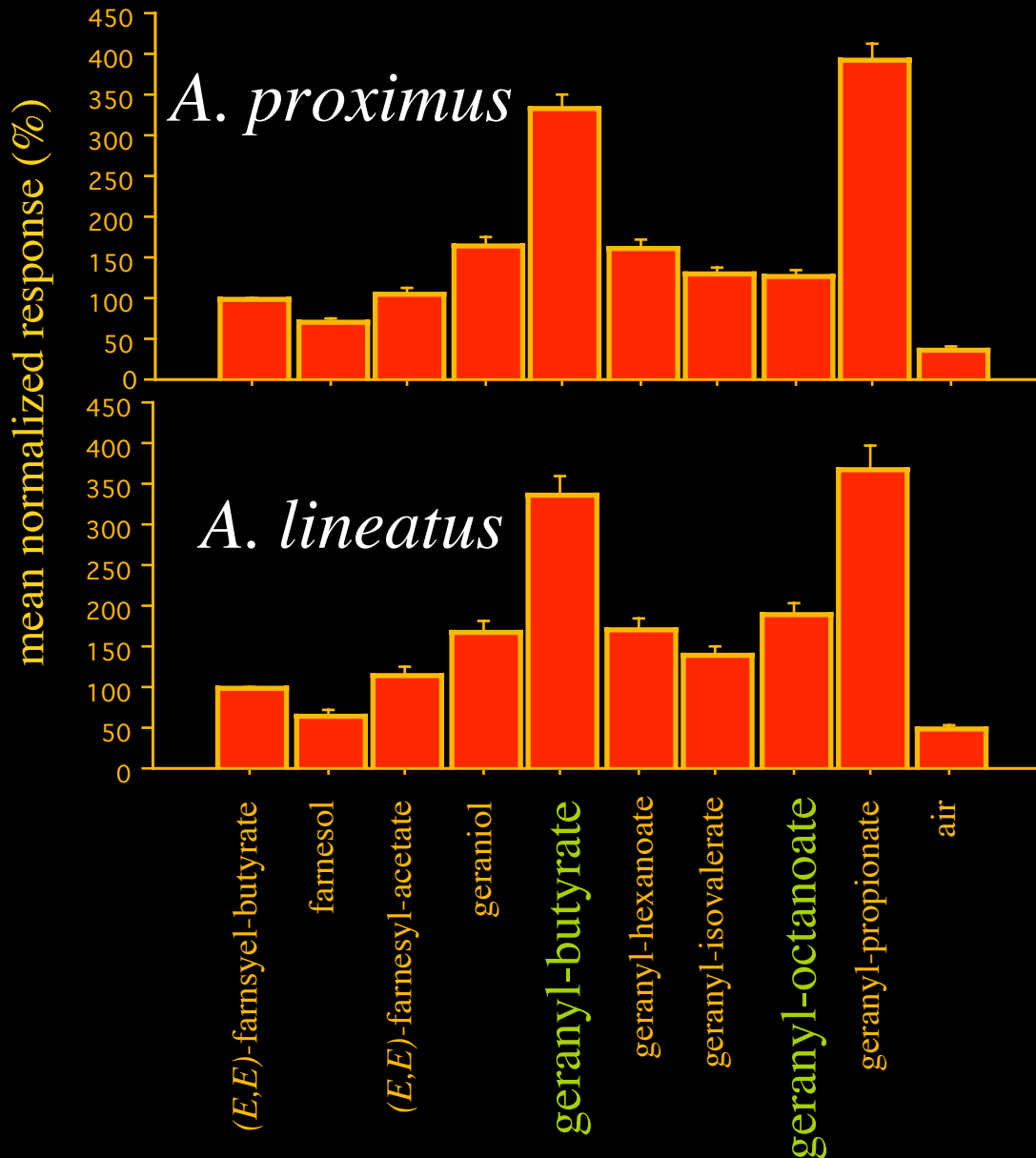


*A. lineatus* /  
*proximus*  
controversy:

field activity



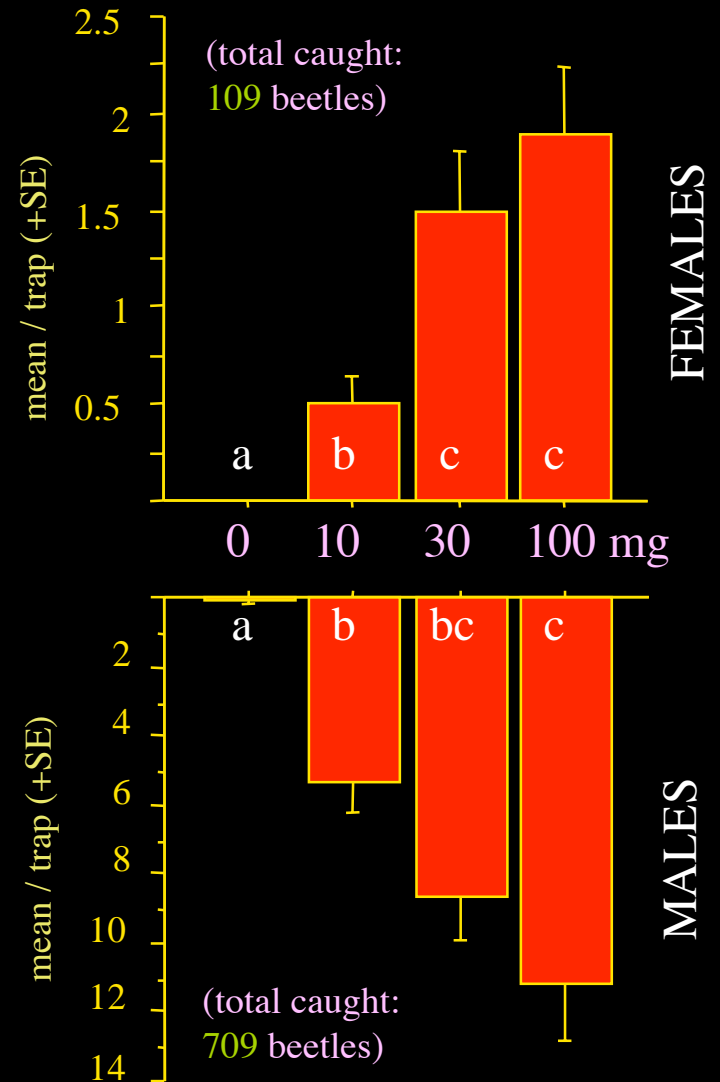




*A. lineatus / proximus controversy:*

*EAG activity*

*New research directions:  
female responses in the field*

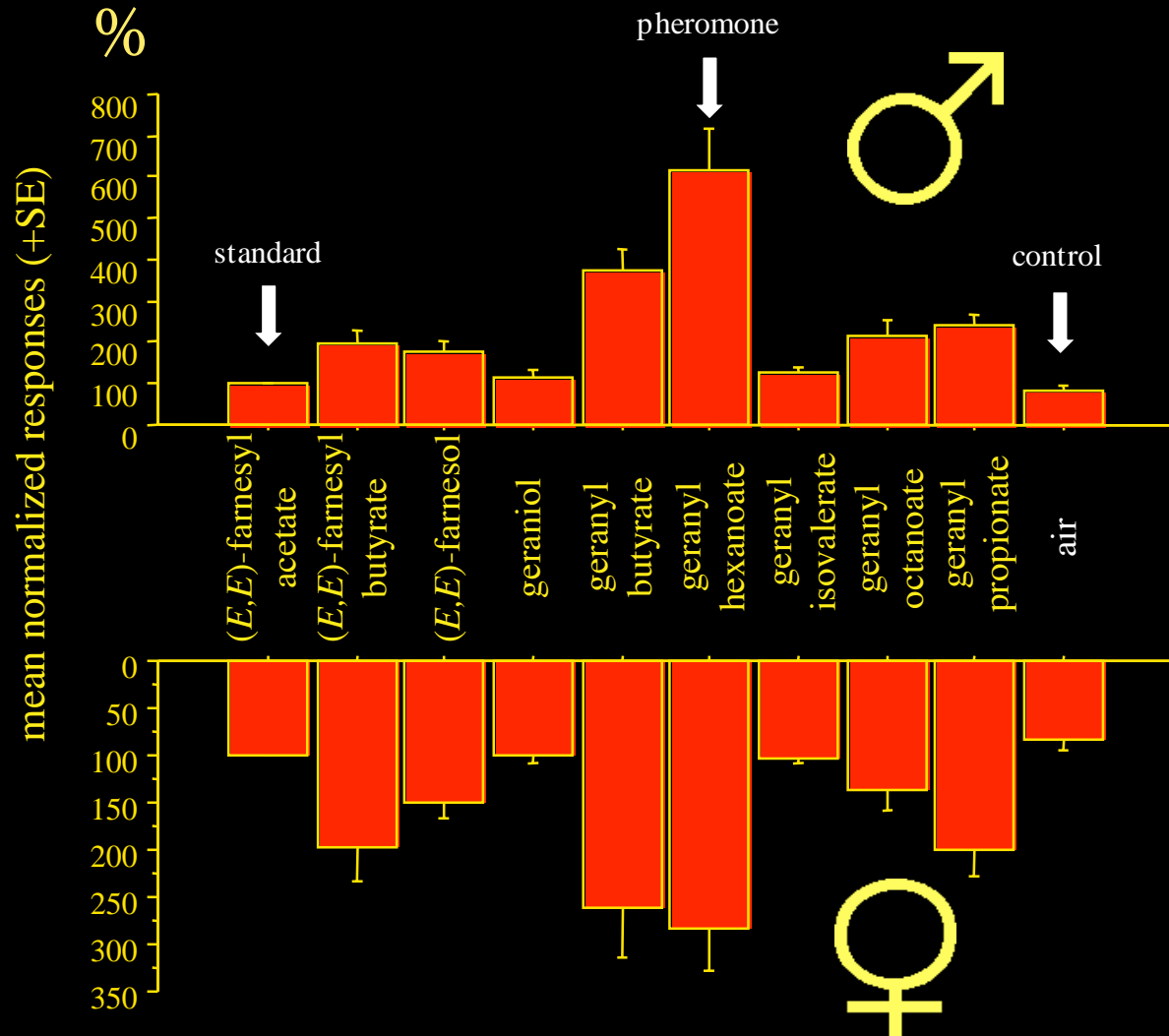


Catches of male and female *A. sordidus* in traps baited with different doses of the pheromone in a preliminary test (Italy, Veneto, May 1 - 26, 2001, Furlan et al., unpubl.)

*New research directions:*

*female responses in EAG*

EAG responses of *Agriotes sordidus* to click beetle pheromone components (means of 10 antennae)



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