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# IS HERBIVORE DIVERSITY A FACTOR OF DUNG BEETLE DIVERSITY ?

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## Why dung beetles are so important ?

### Ecological functions

Organic matter disposal, parasite control, improving grass growth, participate in the biochemical cycles (carbon, nitrogen, etc...).

(Nichols, 2008)

**380 000 000 \$US/year**

the ecosystemic services provided by dung beetles in the US bovine pastures.

(Losey et Vaughan, 2006)

**90 %**

of administered anthelmintics to large herbivores are excreted unchanged in the environment.

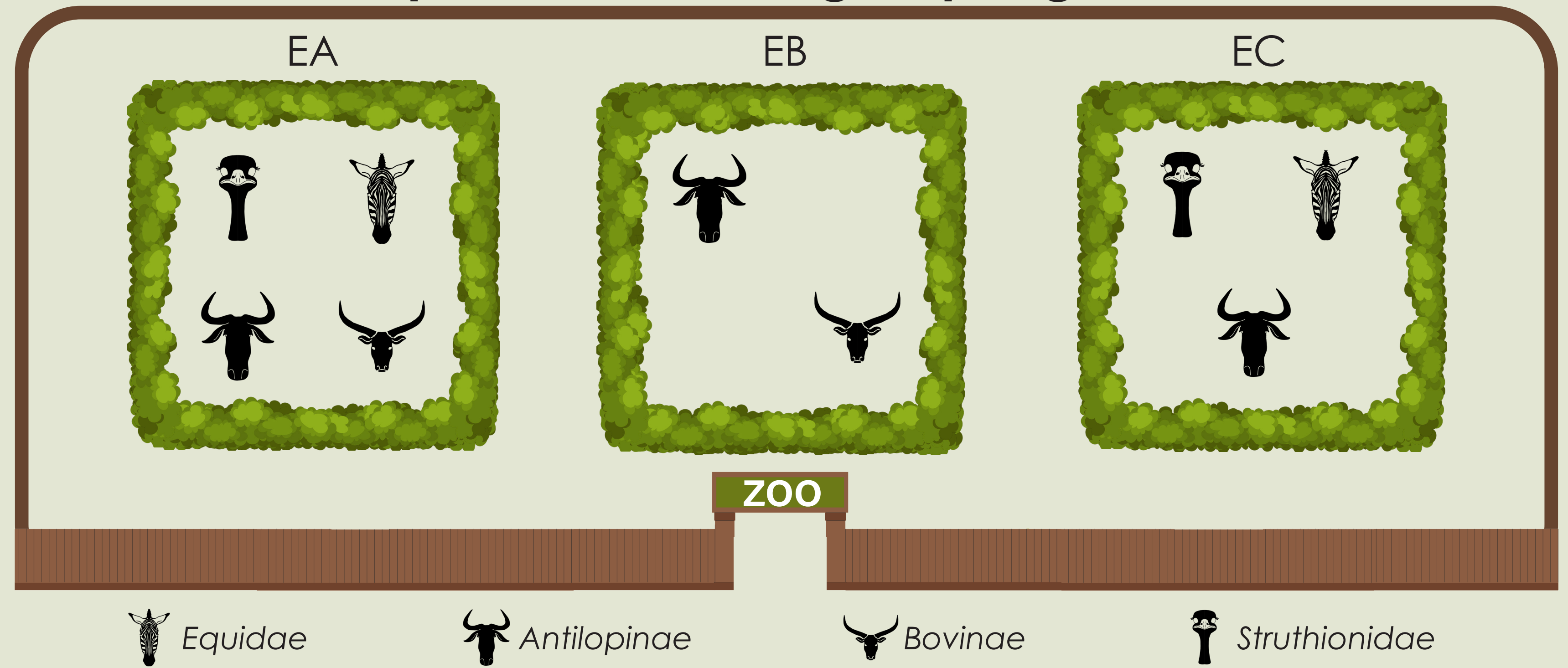
(Gonzalez Canga et al., 2009)

**6 000 000 £/year**

loss of ecosystemic services provided by dung beetles due to ivermectin use in UK bovine pastures.

(Beynon et al., 2015)

## Experimental design, spring 2022



## 1. ZOO

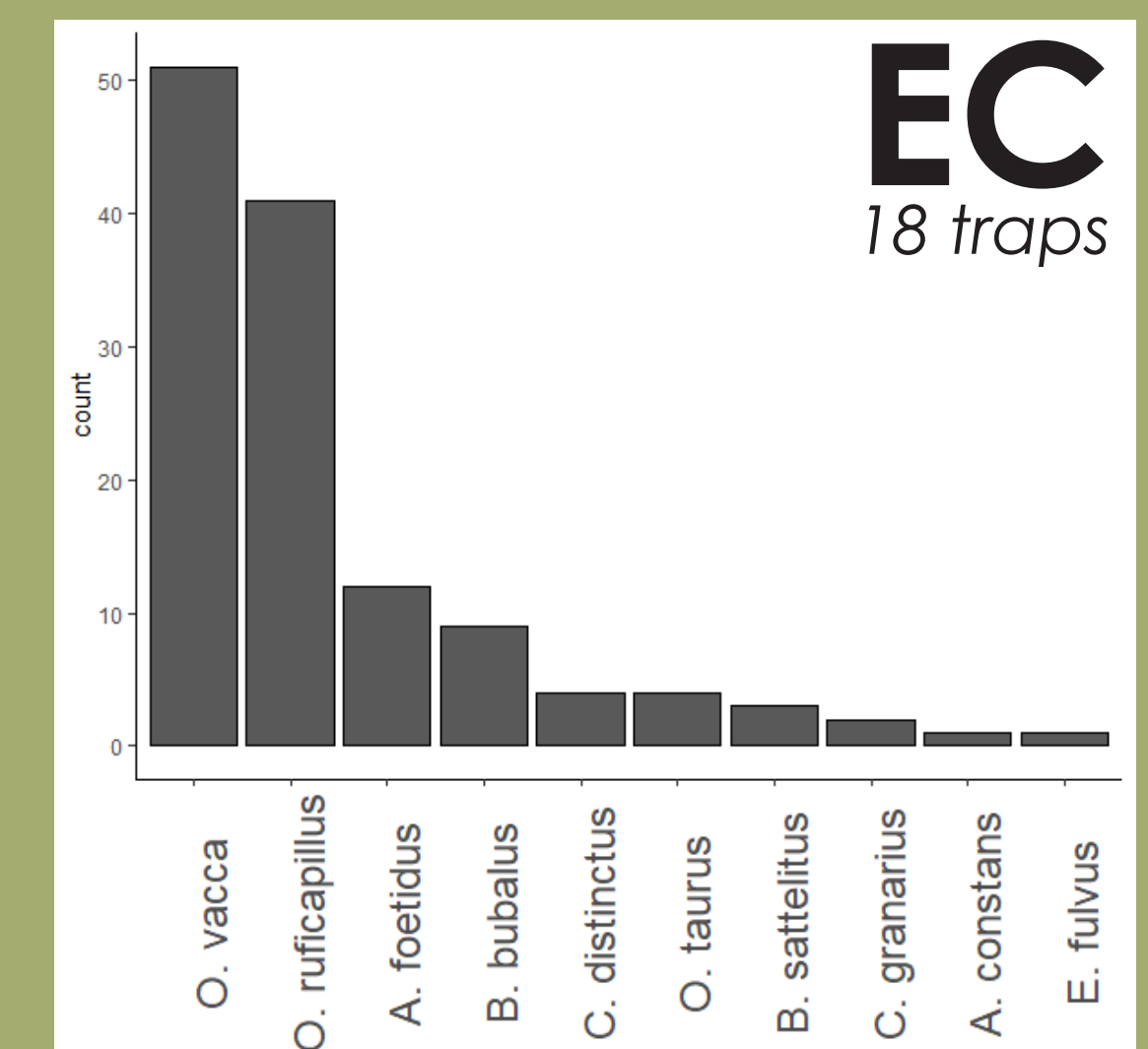
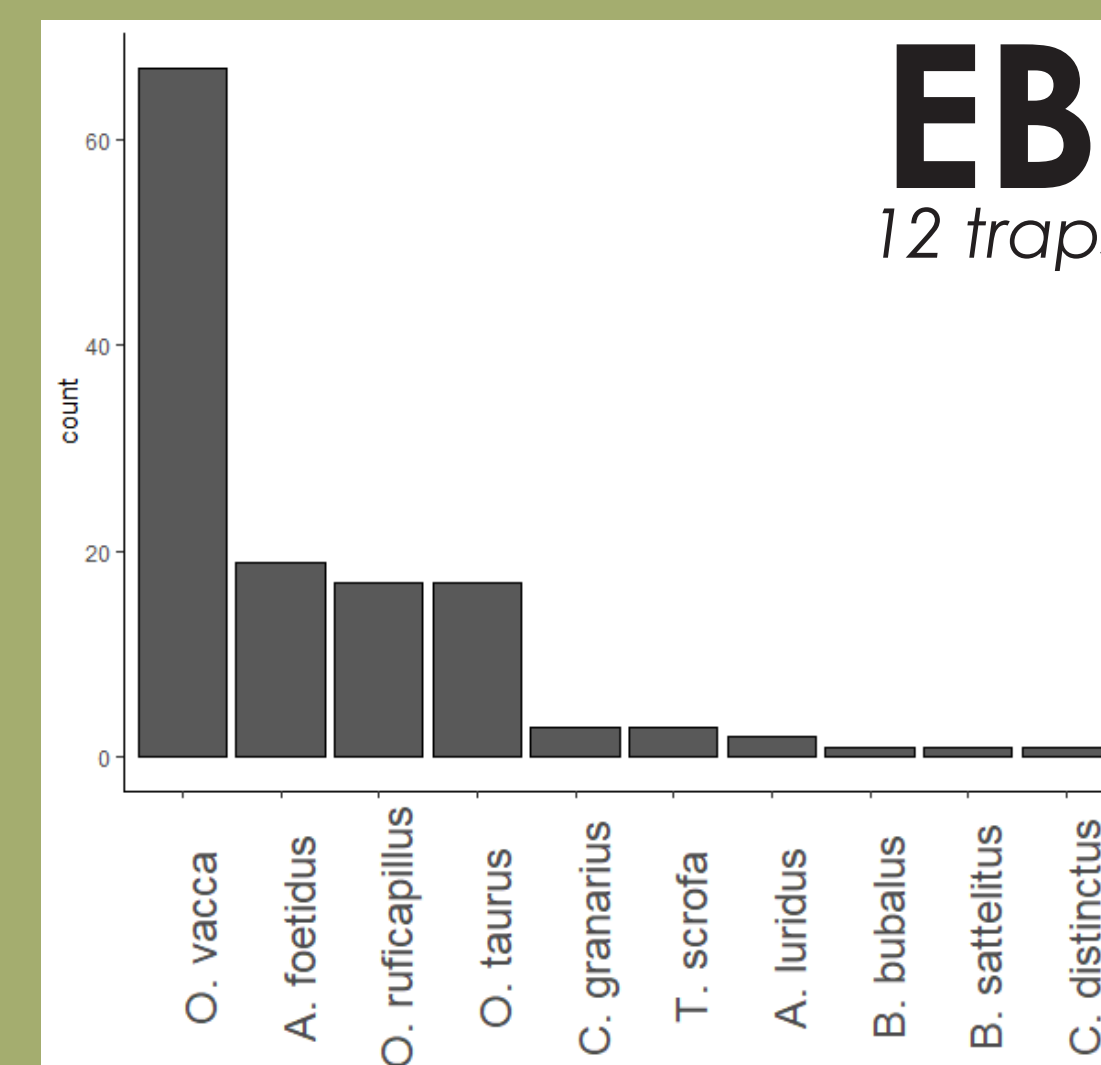
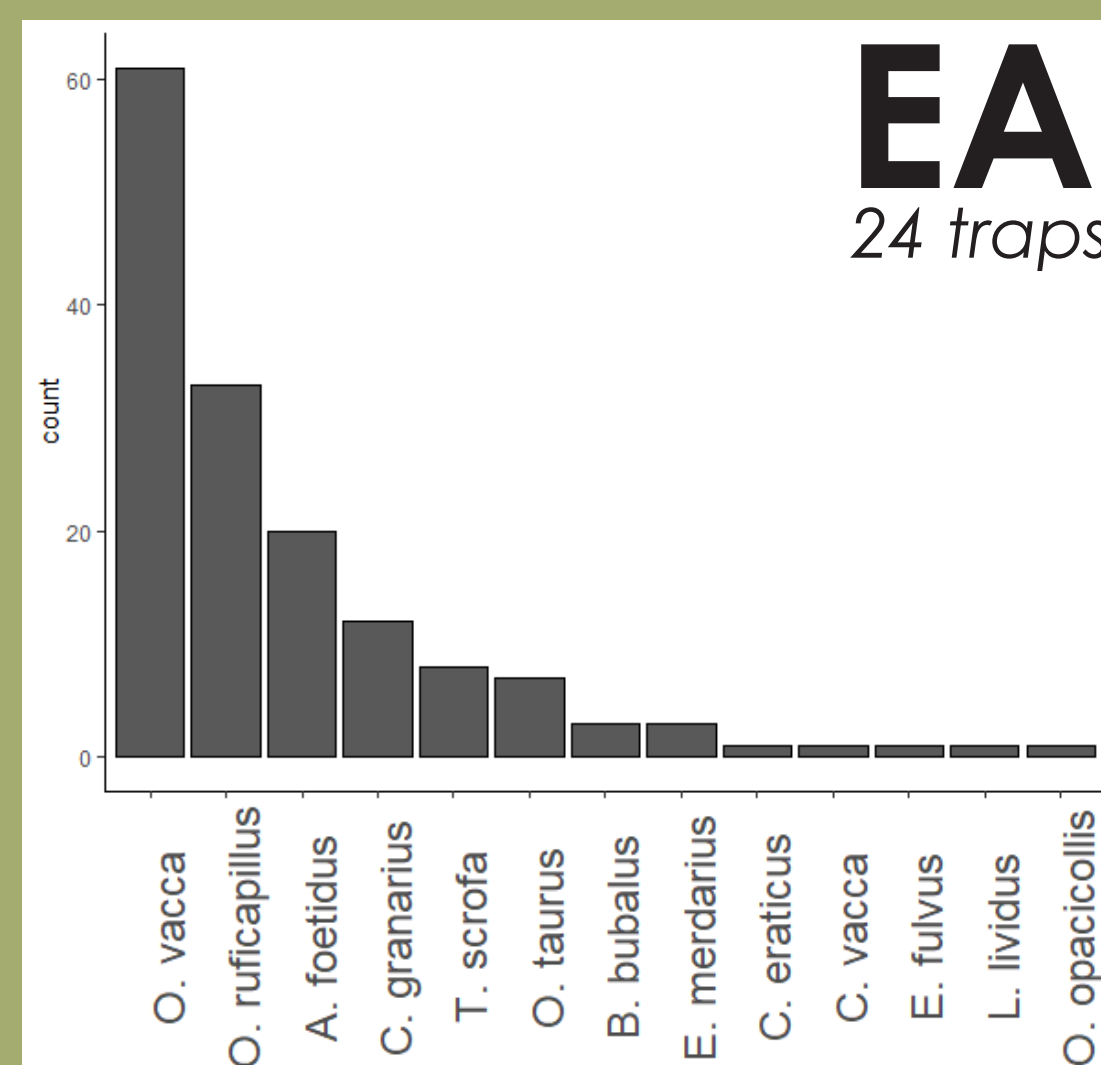
**18**  
Species

40% *O. vacca*  
20% *O. ruficapillus*  
10% *A. foetidus*

**442**  
Dung beetles

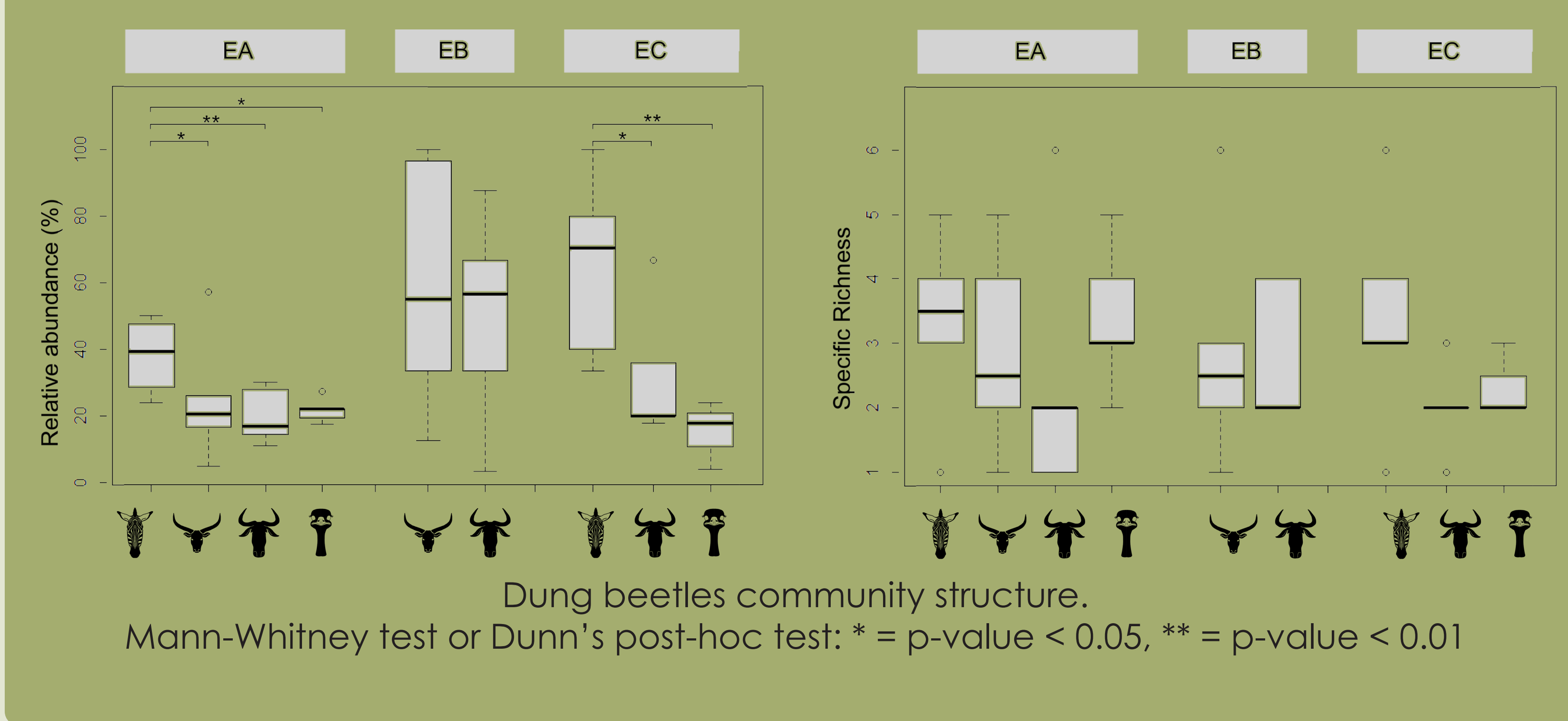
	Inside	Outside
Nb. individuals	411	31
Nb. traps	54	12
Mean abundance/trap	7.6	2.6
Mean rich. sp./trap	2.3	1.0

## 2. ENCLOSURES



Dung beetles species captured in the three enclosures

## 3. TRAPS



## MAIN FINDINGS



Zoos are shelters for native fauna, including arthropods



Dung beetles prefer equid feces