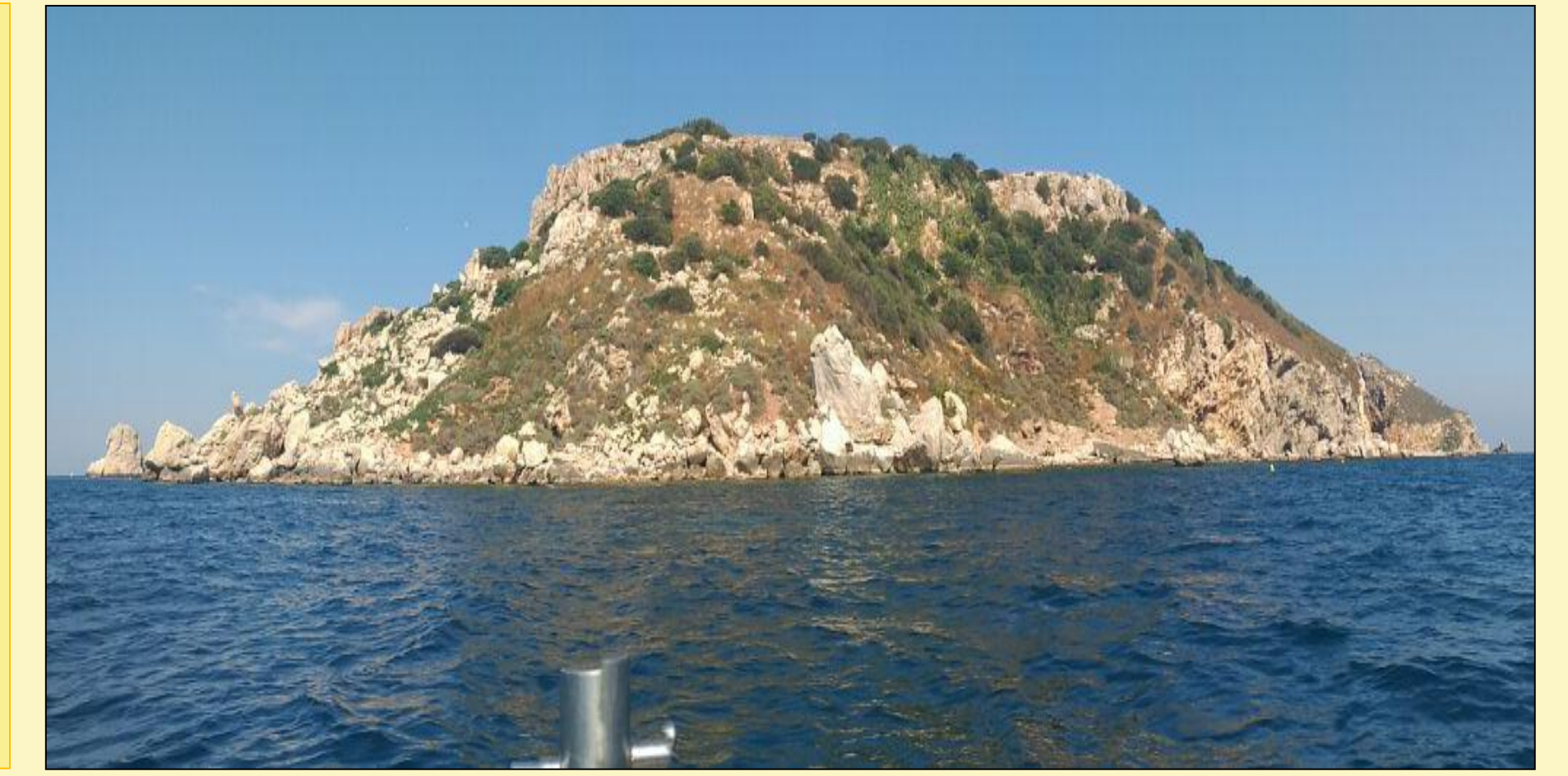


Feather hormonal analysis in nesting yellow-legged gulls (*Larus michahellis*): relationship with physiological features

INTRODUCTION

Birds produce corticosterone (CORT) to cope stressful situations, such as environmental or health threats. The presence of reactive colonies of *Salmonella* and *Campylobacter* in apparently healthy chicks of yellow-legged gulls could be linked to a physiological response of the adrenal gland producing CORT. The feathers are a matrix able to incorporate the CORT circulating in the blood during the feather growth. Feather CORT (fCORT) is then a sensitive integrated measure revealing chronic periods of stress.



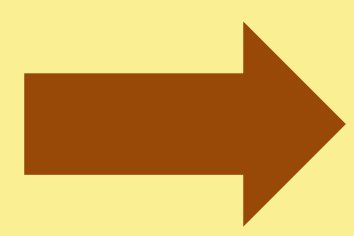
OBJECTIVES

1. To determine the basal levels of fCORT of *L. michahellis* chicks of around 3 weeks of age inhabiting two different locations of Medas Islands
2. To assess the relationship between the levels of fCORT with the presence of reactive *Salmonella* and *Campylobacter* colonies

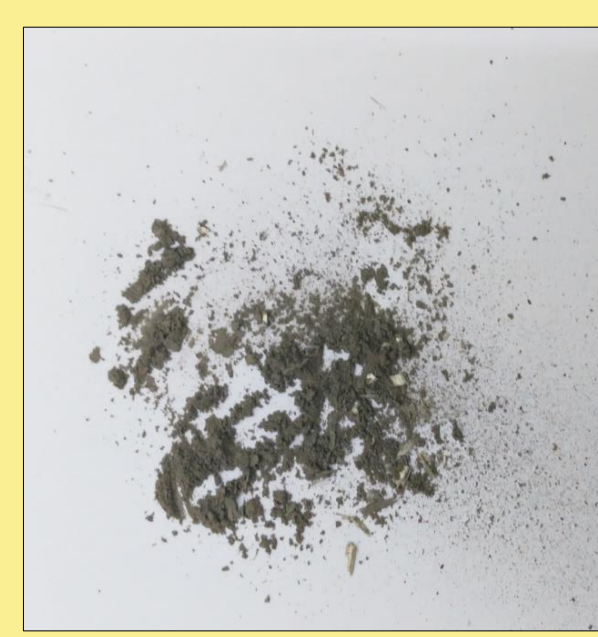
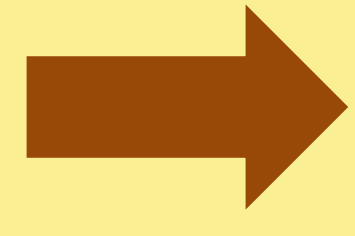
MATERIALS AND METHODS



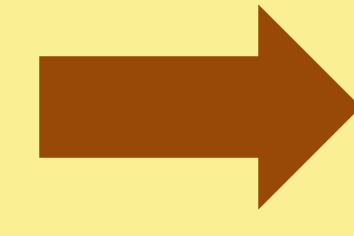
N = 80



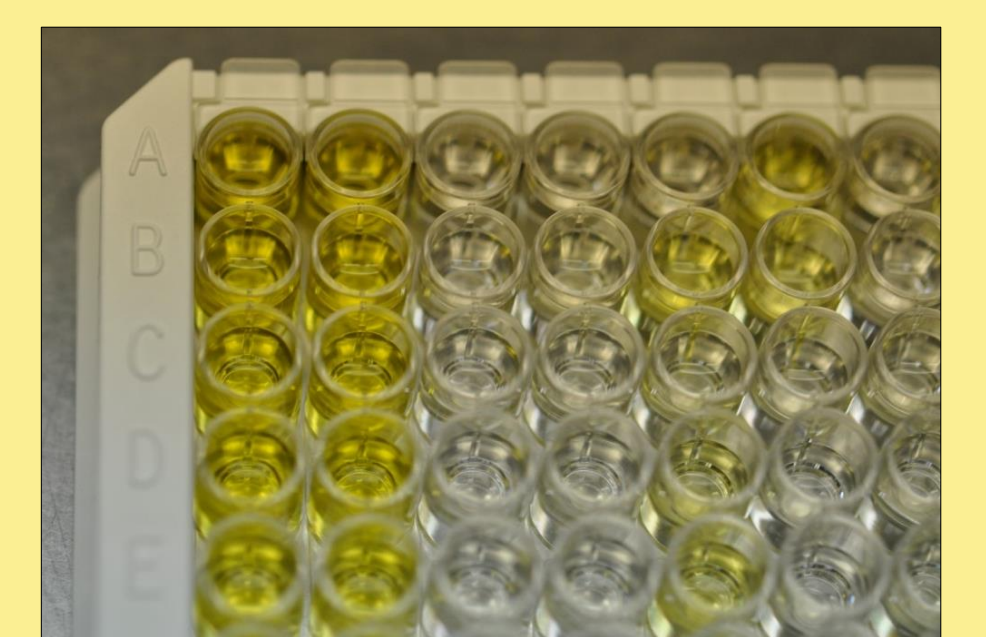
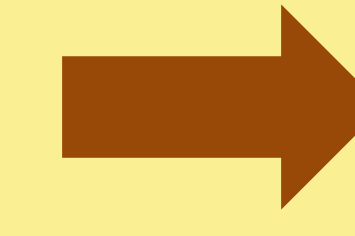
Selection



Homogenization

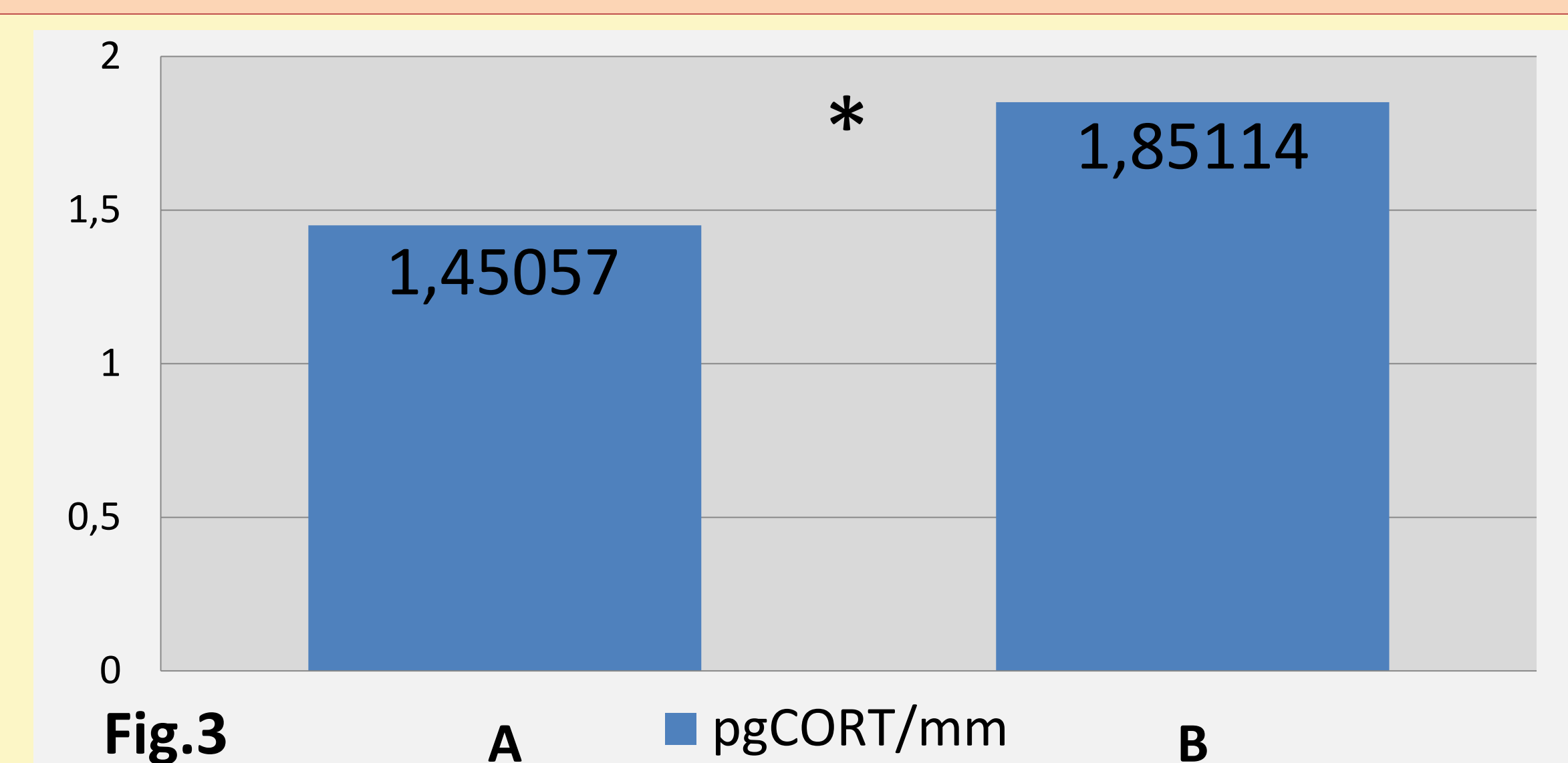
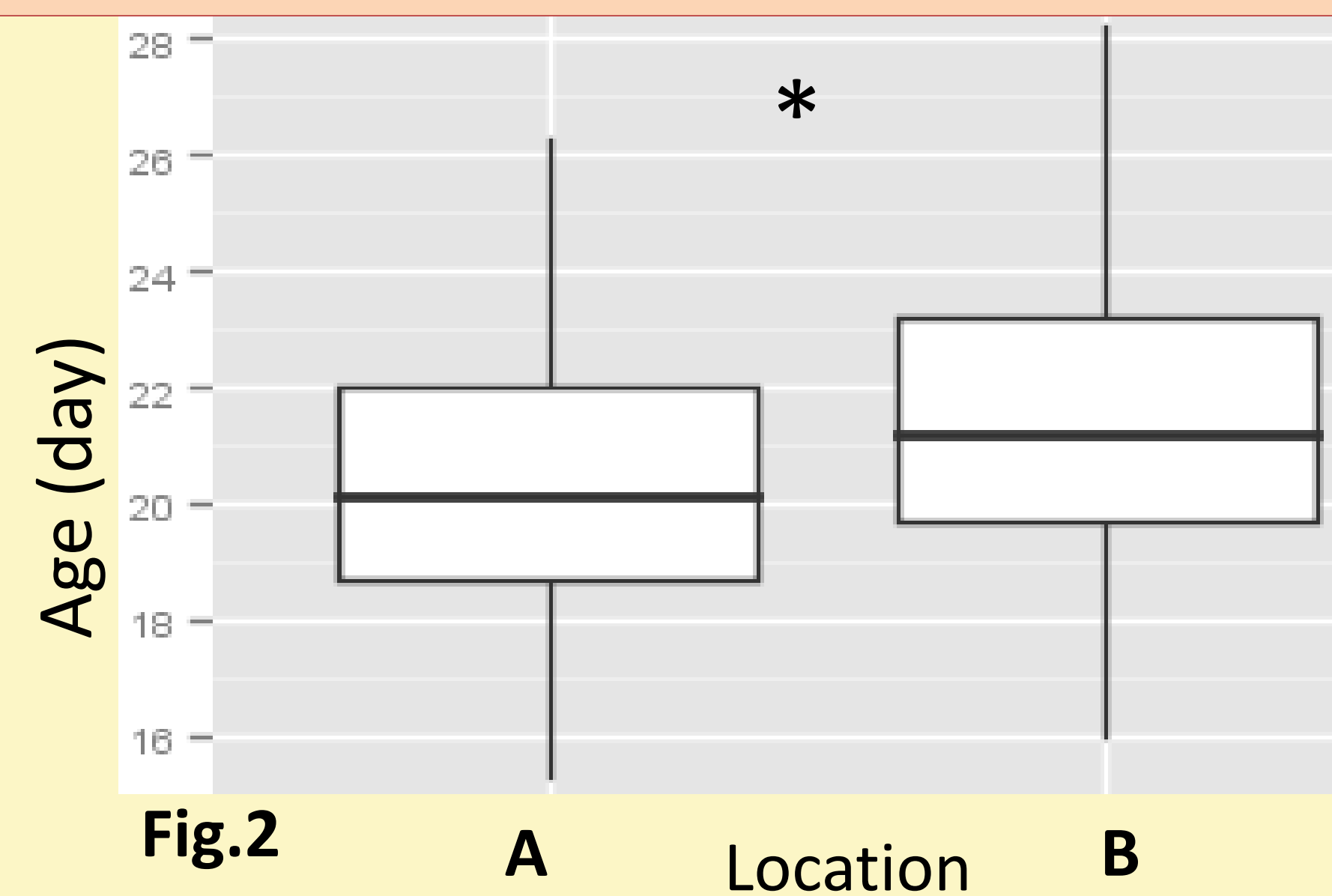
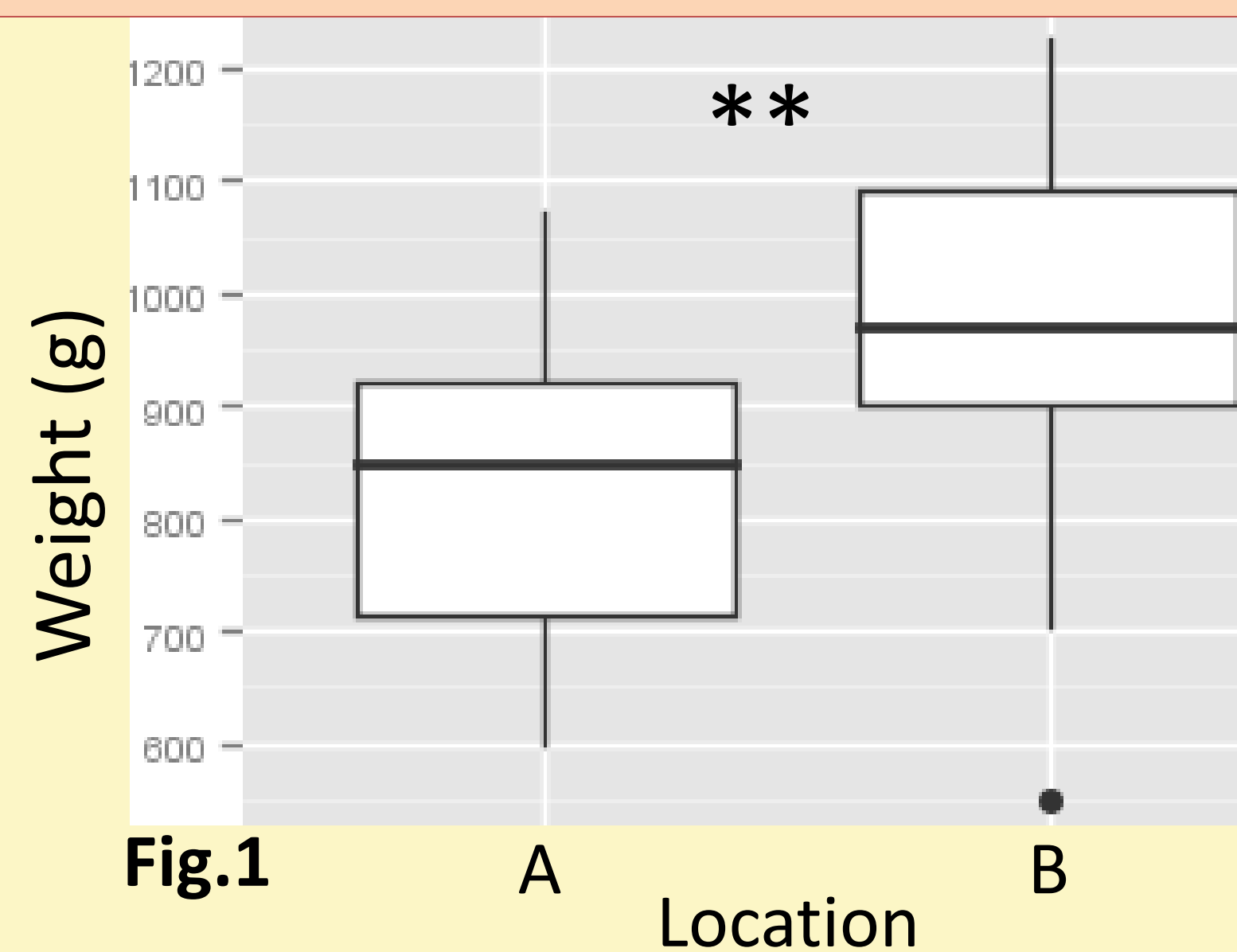


Extraction with methanol

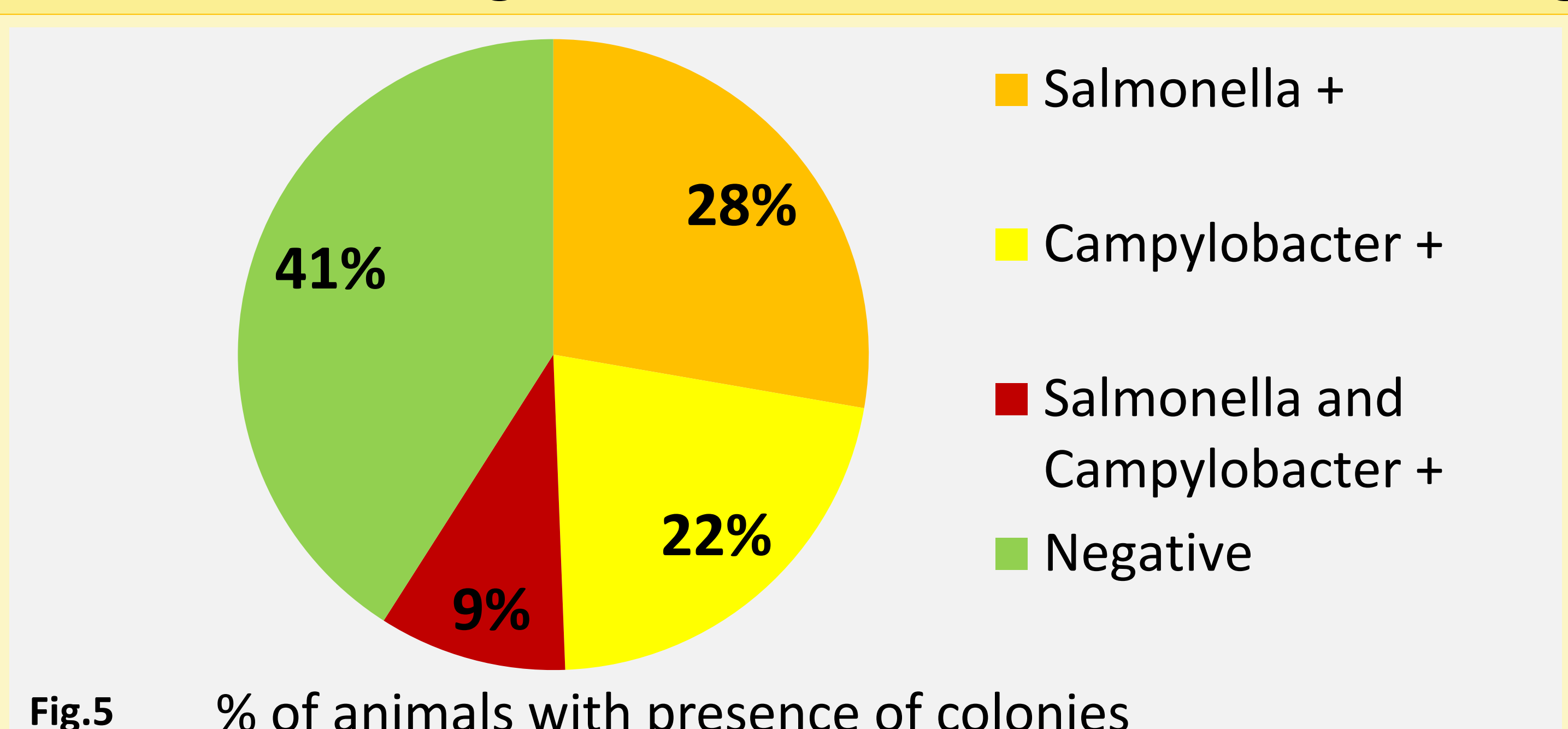
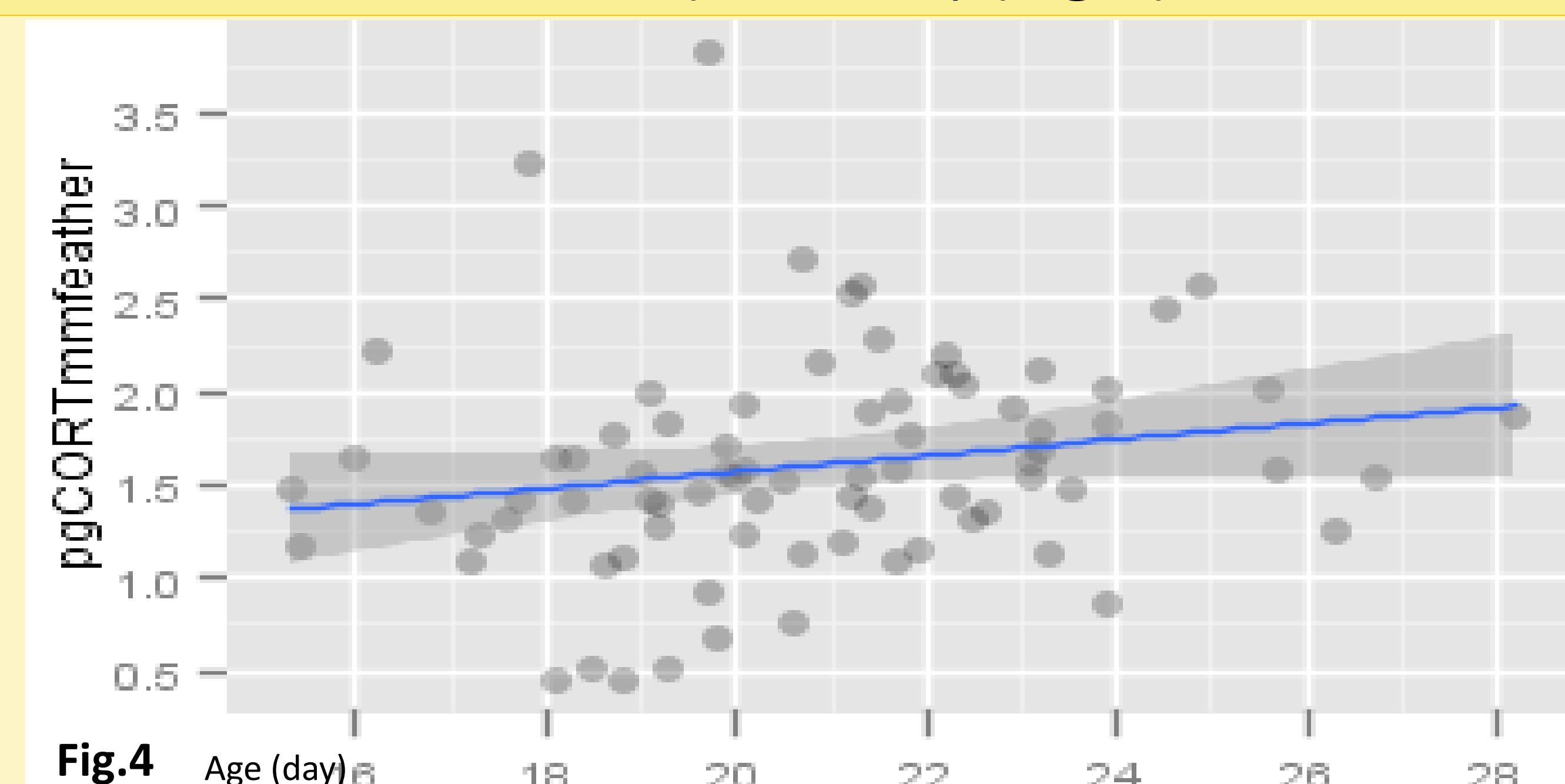


Corticosterone EIA

RESULTS AND DISCUSSION



After *T-test*, we realised that animals of the location A weighed less ($P= 0,0001$) (Fig.1), were younger ($P= 0,03$) (Fig.2) and had lower levels of fCORT ($P=0,002$) (Fig.3) than the animals of the location B. Age and levels of fCORT are related in Fig. 4.

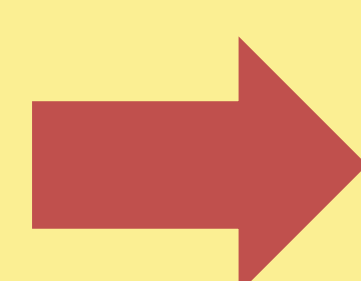


- Differences of age, weight and fCORT levels between the two locations could be explained by a lack of synchronization of the egg laying time between them.
- A high percentage of animals are asymptomatic carriers of important zoonotic pathogens (Fig. 5) and against we expected, fCORT levels are not indirect indicators of the presence of reactive colonies

CONCLUSIONS

The basal levels of fCORT of *L. michahellis* 3 weeks chicks of Medas Islands is $1,6071 \pm 0,58$ pgCORT/mm feather

Corticosterone levels
in feathers



Not predictive of presence of *Salmonella* and *Campylobacter* colonies