



# Adrenal hormone patterns in captive and free-ranging African wild dogs during the breeding season

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Dr Monique Paris

## What influences adrenal hormone production in captive and free-ranging African wild dogs?



• Captive females (European zoos)

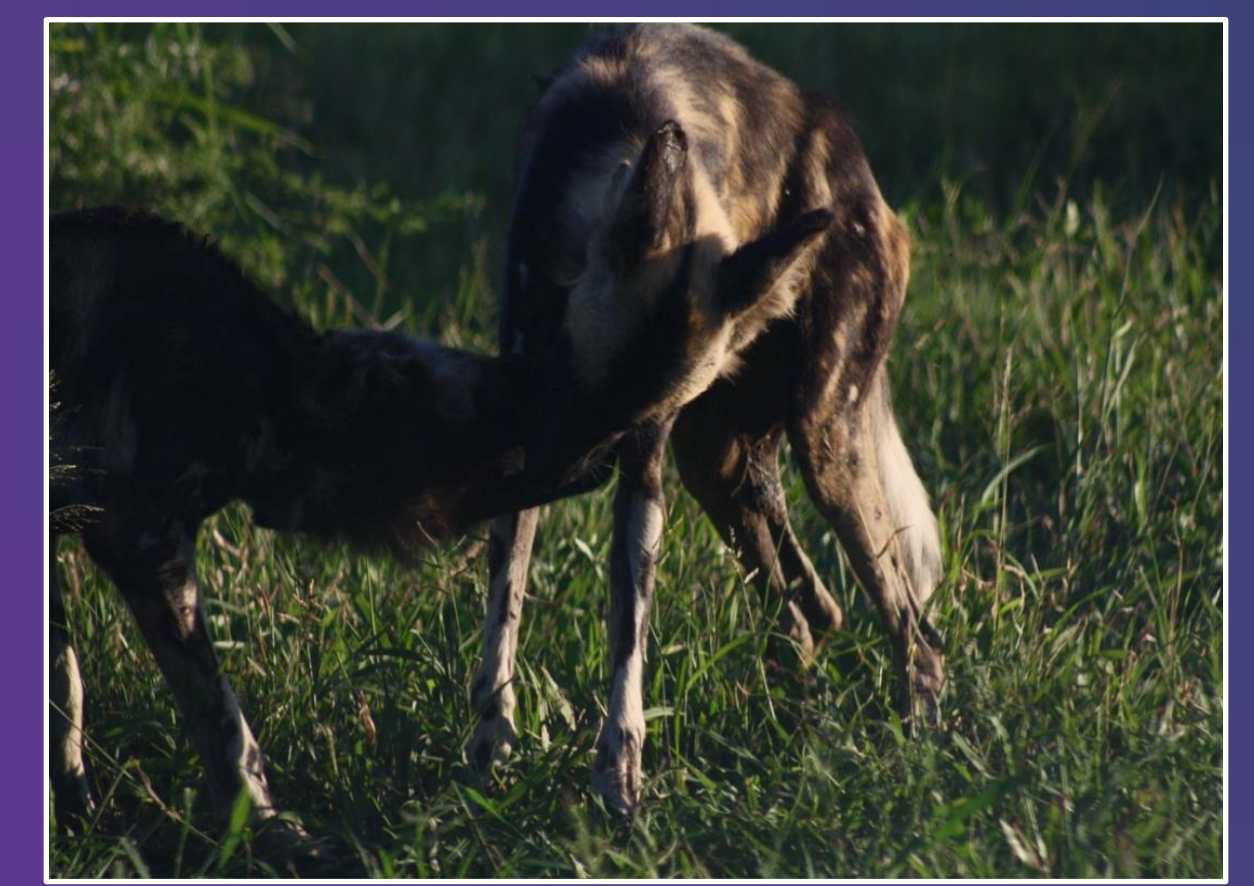
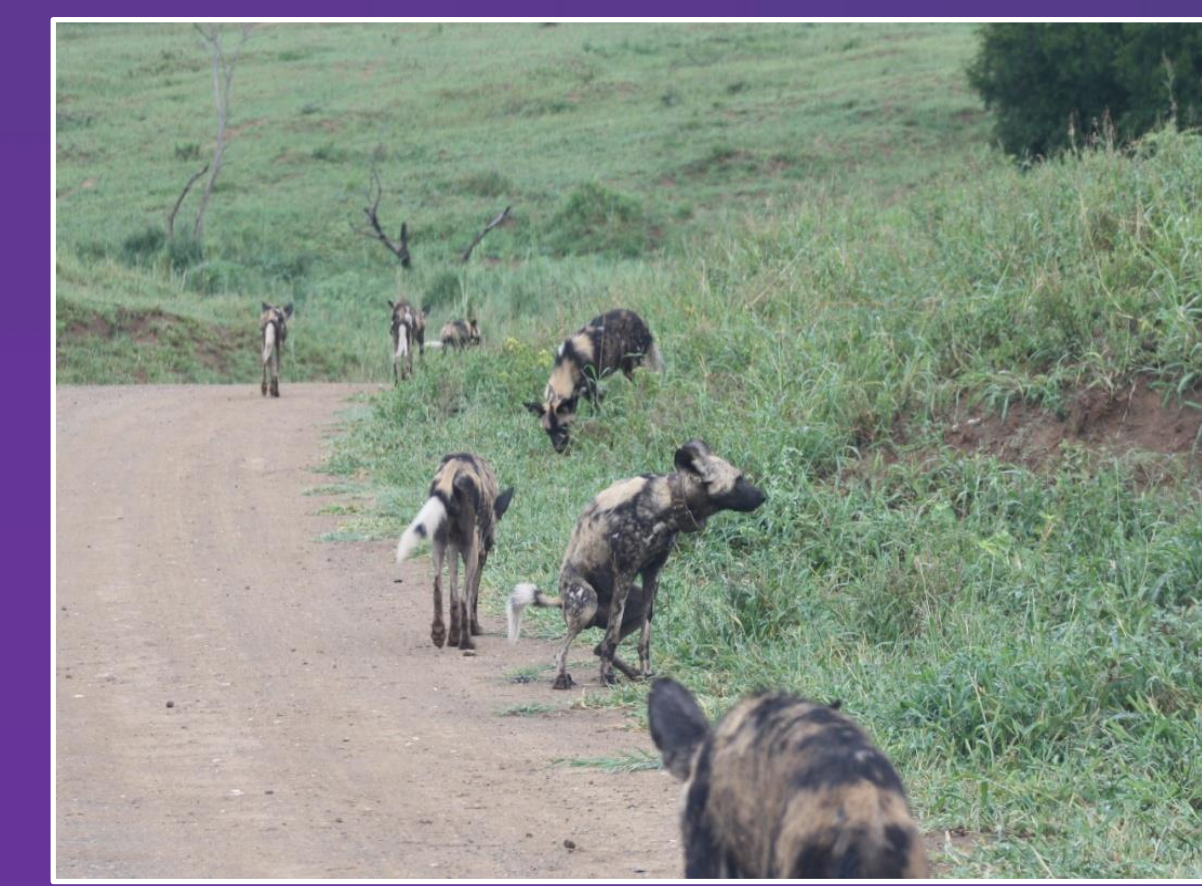
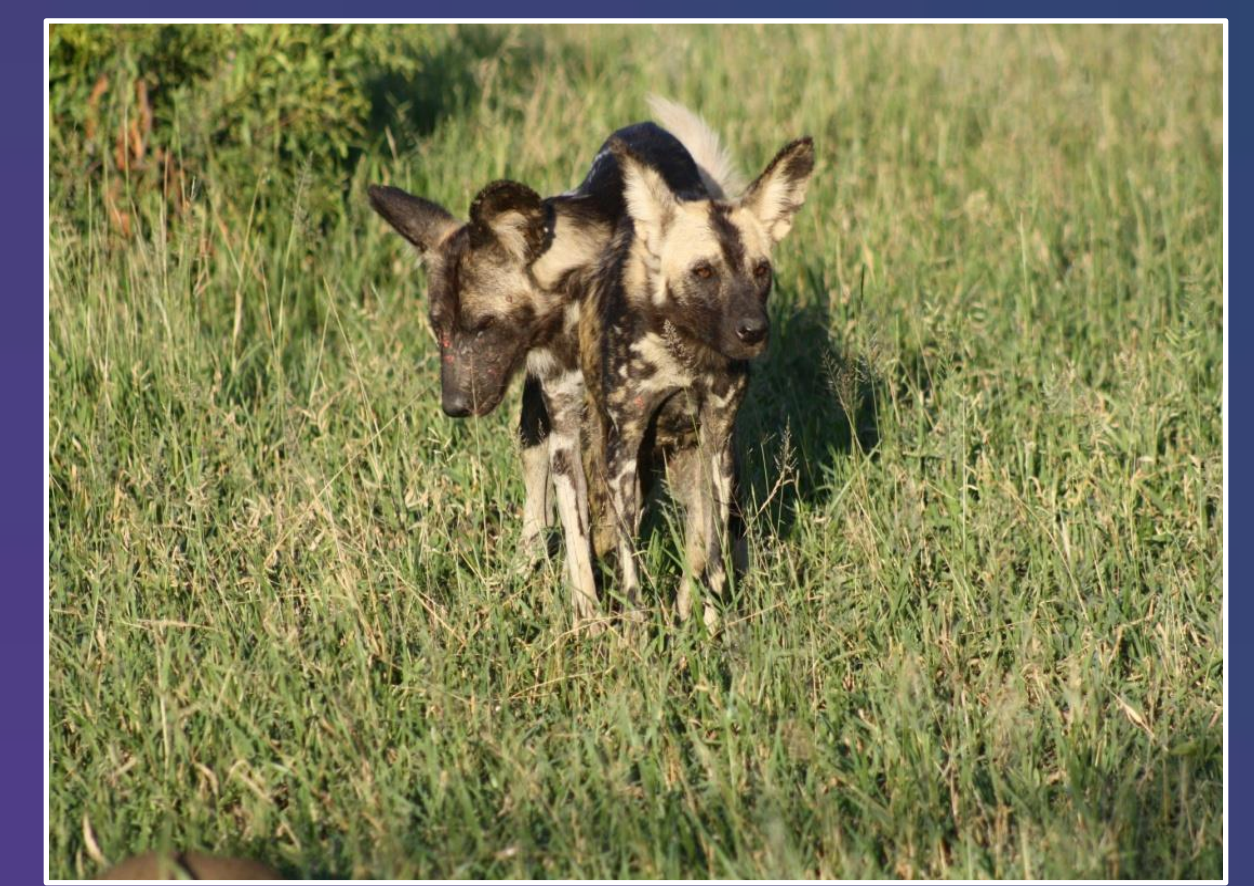


• Free-ranging males and females (South Africa)

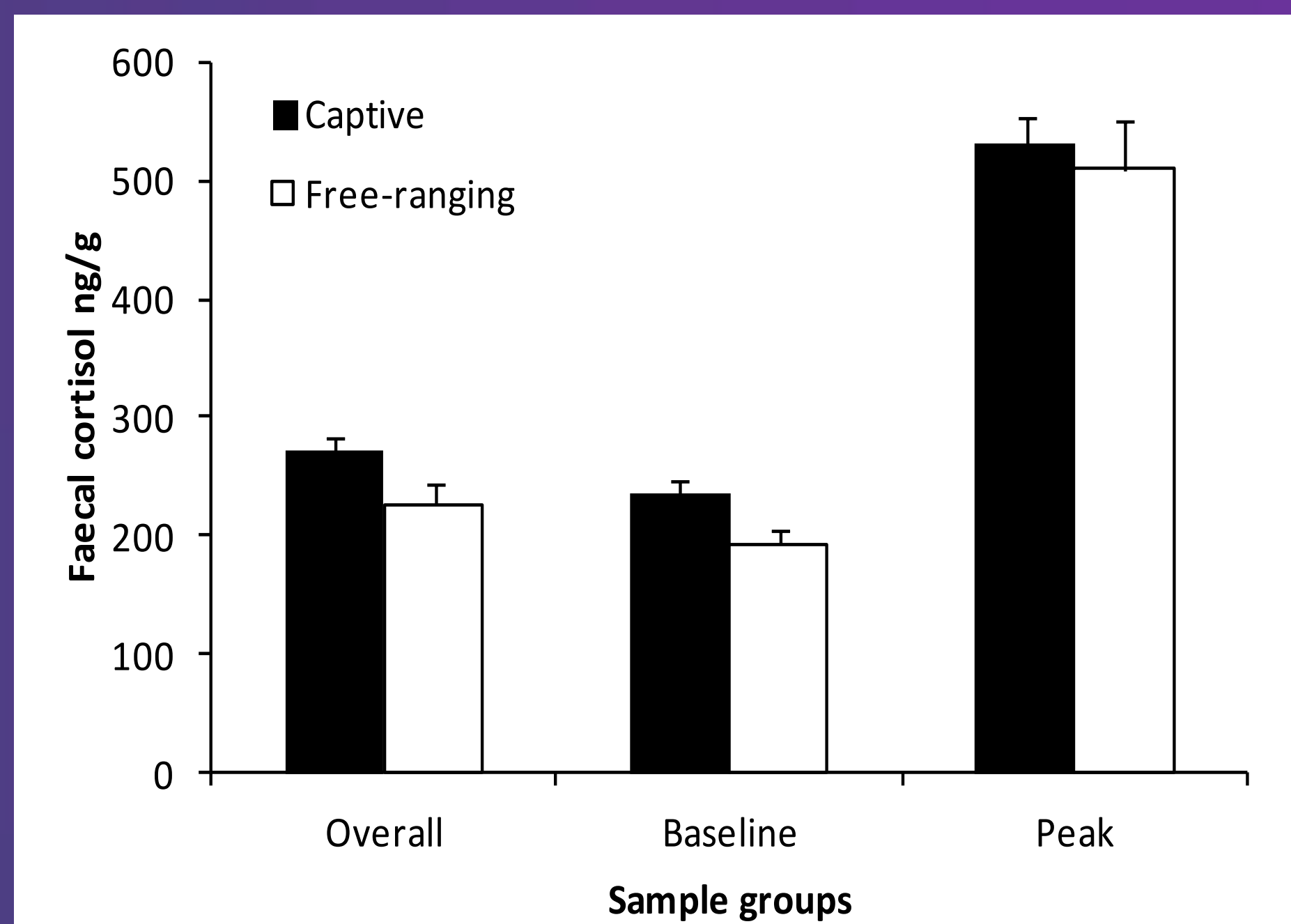
• Regular faecal collections using coloured beads in captivity or opportunistically in the wild

• Behavioural and environmental data collected

• Faeces analysed using a GammaCoat Cortisol <sup>125</sup>I RIA kit (Diasorin, Sydney, Australia)

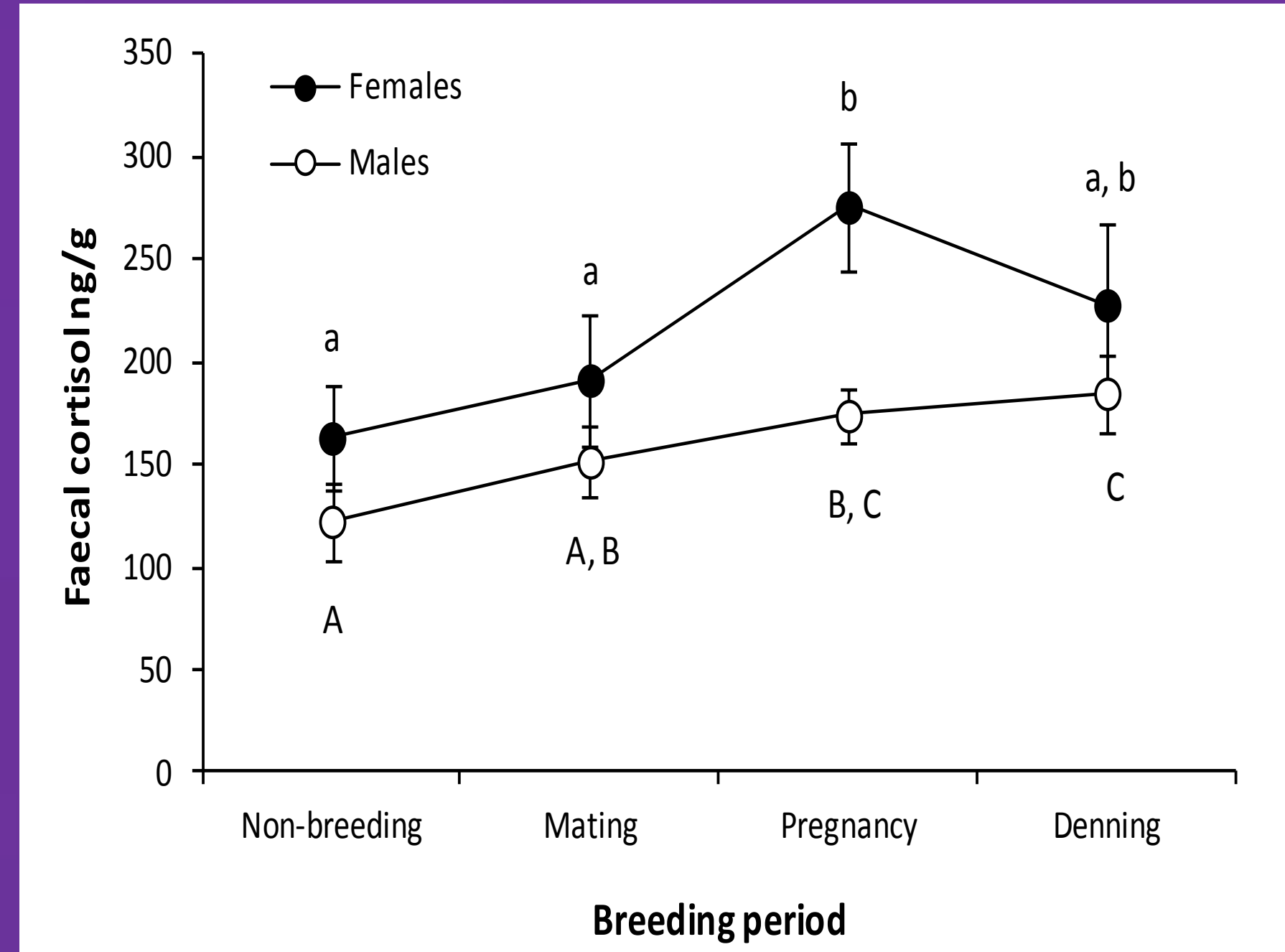


- Captive populations have higher faecal cortisol metabolite concentrations than free-ranging populations
- Pregnancy and denning periods have higher concentrations of faecal cortisol metabolites than non-breeding periods in free-ranging wild dogs



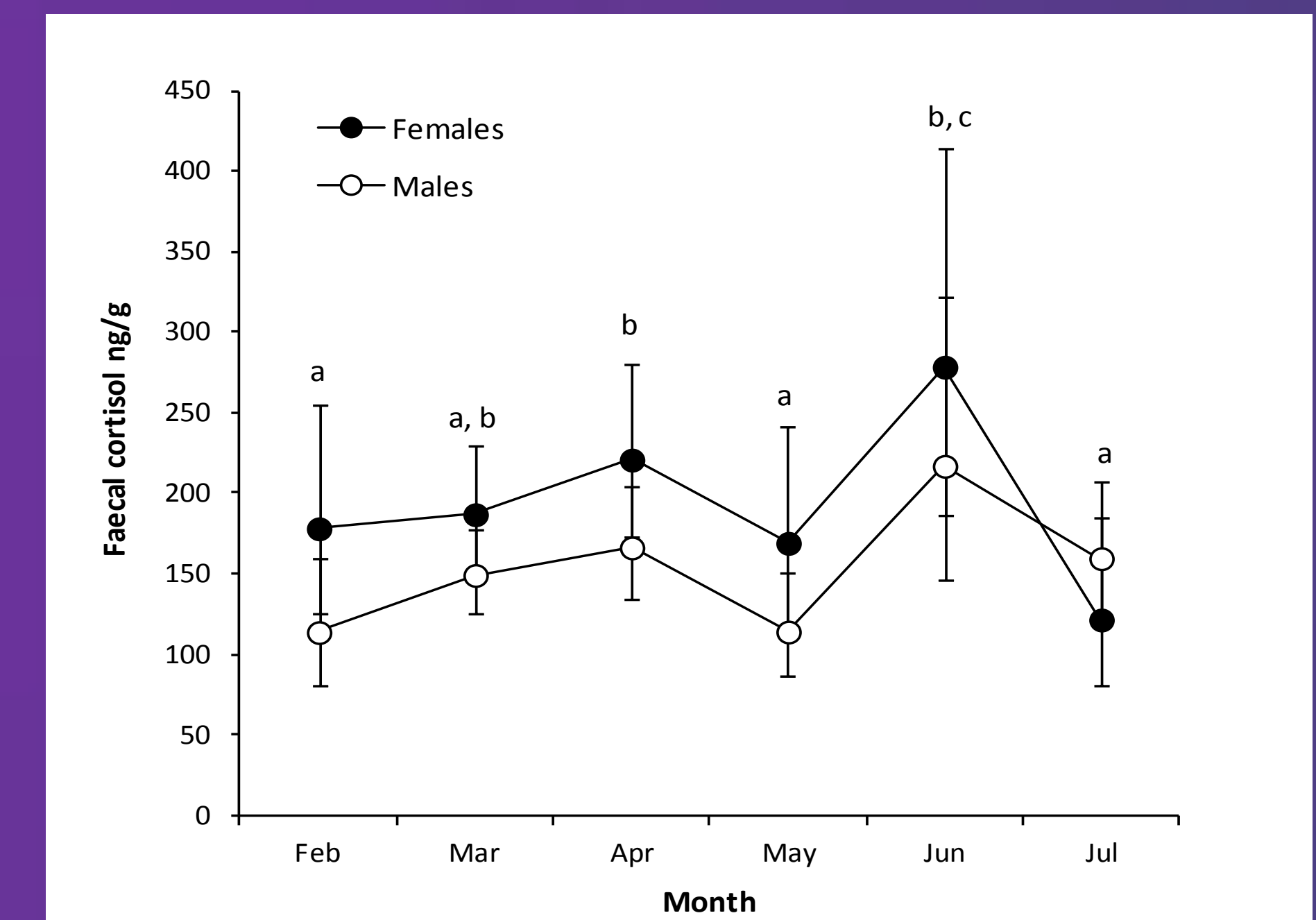
### POPULATION

Captive females had significantly higher faecal cortisol metabolite concentrations than free-ranging females in overall and baseline samples



### REPRODUCTIVE PERIODS

Female and male free-ranging wild dogs showed increasing adrenal hormone concentrations as the breeding period progressed



### MONTHLY CHANGES

Similar patterns observed between male and female free-ranging wild dogs from February to July over two years

• Captive females:

❖ cortisol concentrations were not affected by age class, reproductive status or group housing structure, but differed between zoos

• Free-ranging populations:

- ❖ females have higher cortisol concentrations than males
- ❖ male yearlings had higher cortisol concentrations than pups and adults
- ❖ social status and pack did not influence cortisol concentrations for either sex
- ❖ no environmental correlates with monthly changes in cortisol concentrations

## Populations, sex and breeding periods influence adrenal hormone patterns

- Important for captive management and breeding programs if captive wild dogs or particular captive packs are more stressed, as it may influence pack structure or reproductive success
- Relevant for conservation programs involving human-assisted management, as stress-inducing activities should be minimised during particular breeding periods