

Background

What is alloparental care ?

- Alloparental care is the care of another's offspring through grooming, guarding and feeding.
- It is a rare behavior occurring in birds and mammals such as carnivores, primates and rodents.

Why Cape ground squirrels ?

- They have three male groups that provide varying levels of alloparental care. Subadult and pubescent natal males remain in the matrilineal community.
- Subadult males do not provide care.
- Pubescent natal males provide care but as they near the age of dispersal (range is 10 months to 5 years) they provide less care.
- Pubescent male bands leave the matrilineal community and do not provide care
- Both pubescent male groups seemingly underwent the same hormonal activation during maturation but only the natal male is engaging in alloparenting.

Why prolactin ?

- Prolactin is a hormone that maintains parental behavior.
- Alloparenting species have been shown to have high prolactin levels which may be a proximate cause of alloparental care. No study has explained prolactin's role in alloparental care in Cape ground squirrel.

Objective

Compare prolactin levels in subadult males, pubescent natal males and band males.

The role of prolactin in alloparental care in Cape ground squirrel

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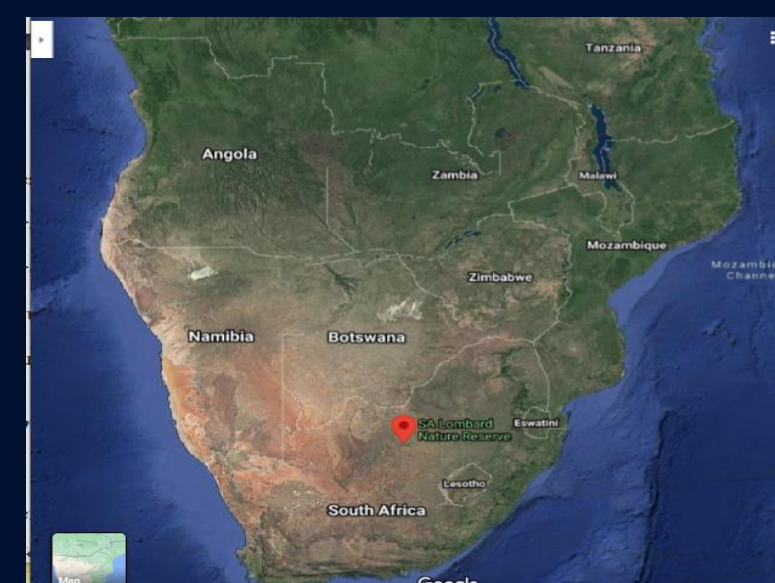
Hypotheses

- H1: Prolactin is highest in pubescent natal male
- H2: Prolactin levels decrease as the natal male nears dispersal age

Predictions

- P1 : Increased engagement in alloparenting behavior
- P2: Decreased engagement in alloparenting behavior

Methods



S.A. Lombard Nature Reserve

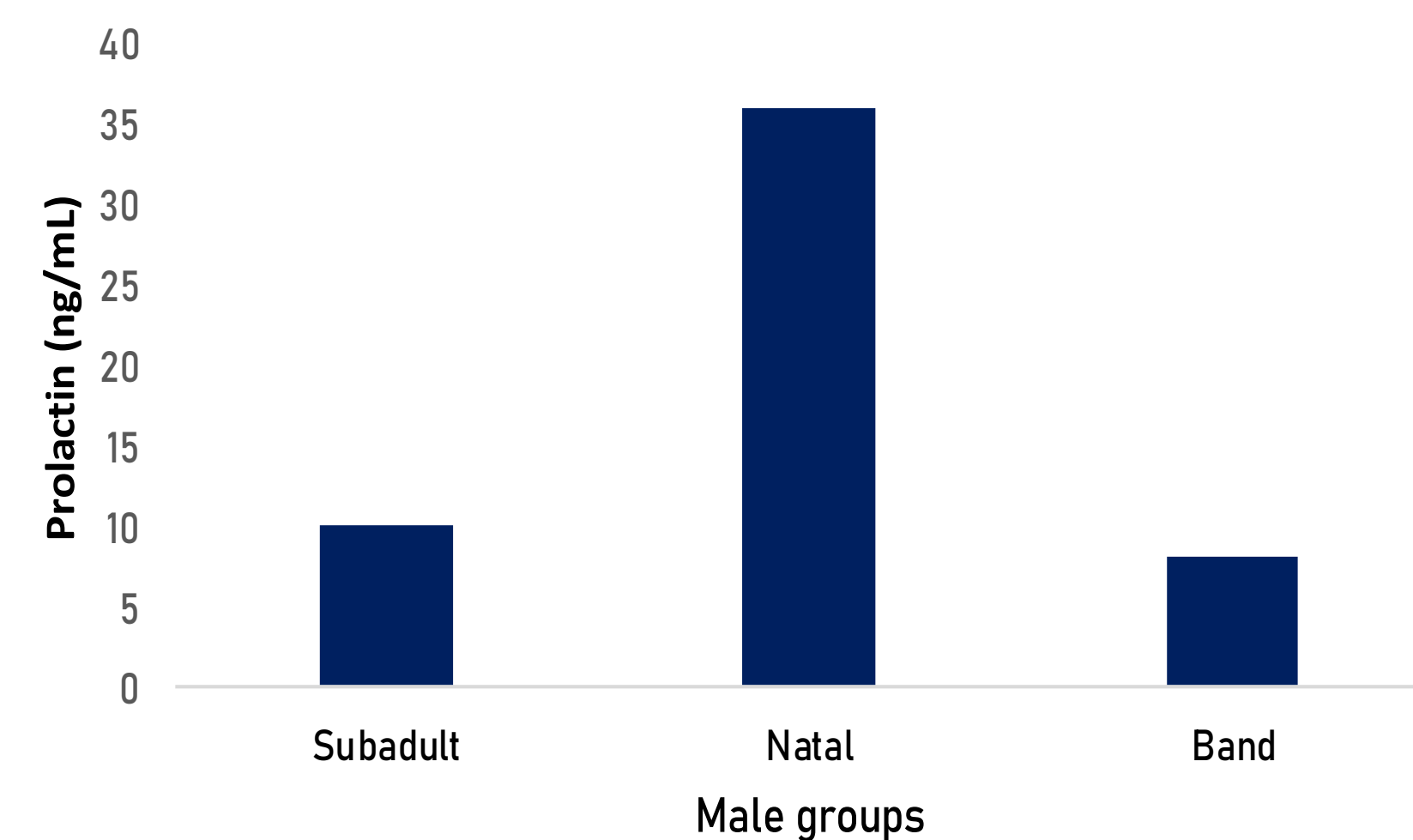
- study site in the Kalahari grasslands

1. Live traps (Tomahawk, 15x 15 x 50 cm) baited with
2. ID using PIT tag and dye marks in the three male groups (subadult, natal and band males)
3. Prolactin Elisa Kit to perform a hormonal assay
4. Behavioral observations of alloparental care

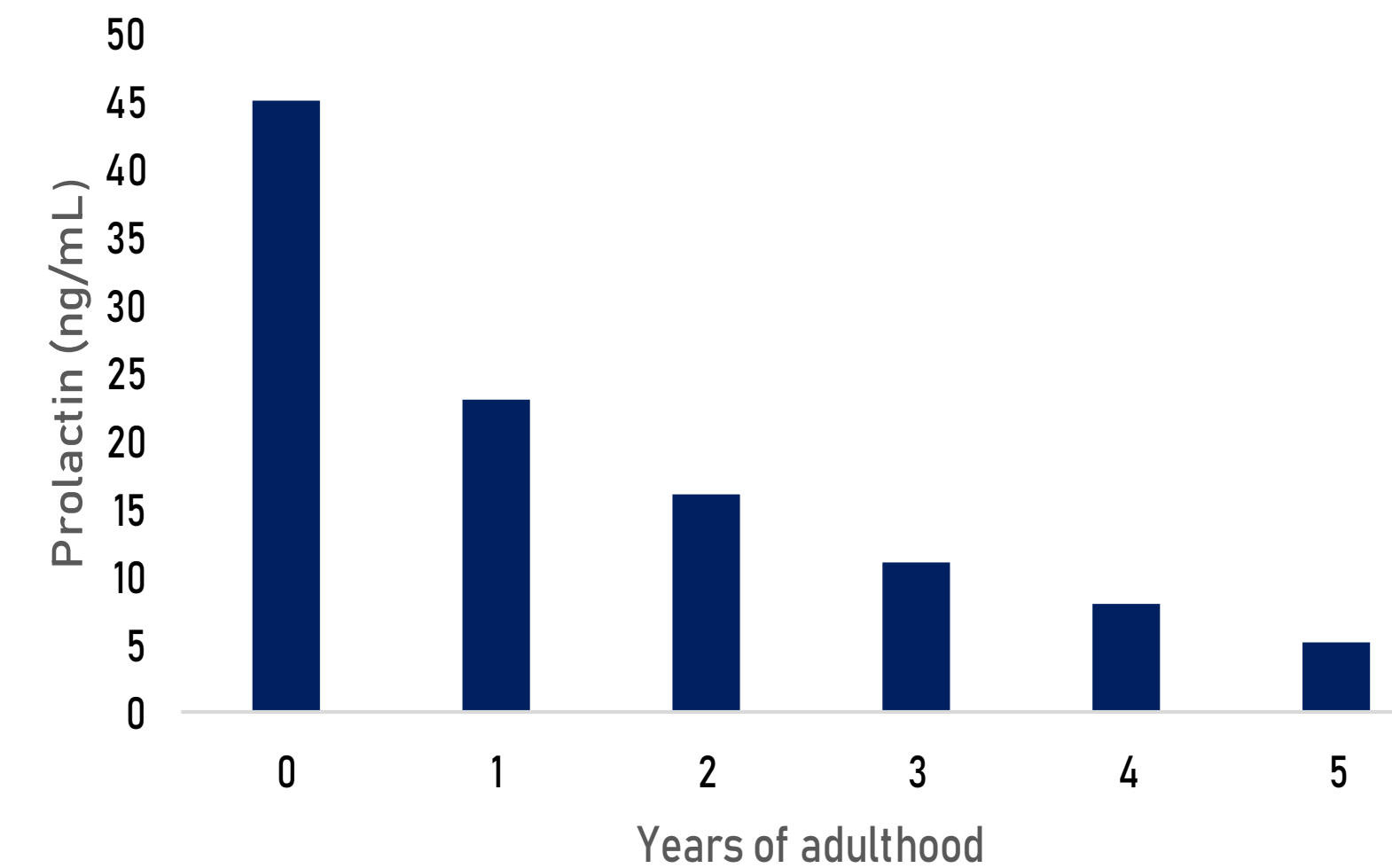


Expected results

Prolactin levels in male groups



Natal males prolactin levels nearing dispersal age



Conclusion

- Prolactin levels can be used as an indicator of an individual's ability to alloparental care in the three Cape ground squirrel male groups.
- The age of natal males is an important factor in an individual's ability to engage in alloparental care. As the concentration of circulating prolactin levels decreases as the natal male ages, the less care they provide.



References

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