

Let's talk about... different things!

Communication within and among sexes in Farasan gazelles

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Introduction

Scent marking in localized defecation sites (latrines) has often been interpreted in the context of male territory defense. Still, latrines could have different functions in both sexes, especially where territorial males monopolize groups of females with stable social alliances. We assessed the spatial distribution of latrines within home ranges of wild ranging Arabian gazelles (*Gazella arabica*) on Farasan Island (Red Sea, Saudi Arabia).

Materials & Methods

From 26 March-21 April 2009, latrines were mapped (position, # fresh fecal pellets, presence of urine and male scrapings, size, substrate type, direction/distance to next food plant). Latrines were assigned to home ranges of 21 females and 7 males in the study area. To test for sexual differences in latrine visits, camera traps were used at 5 latrines located in overlap areas of females and at 3 latrines in overlap areas of male territories.

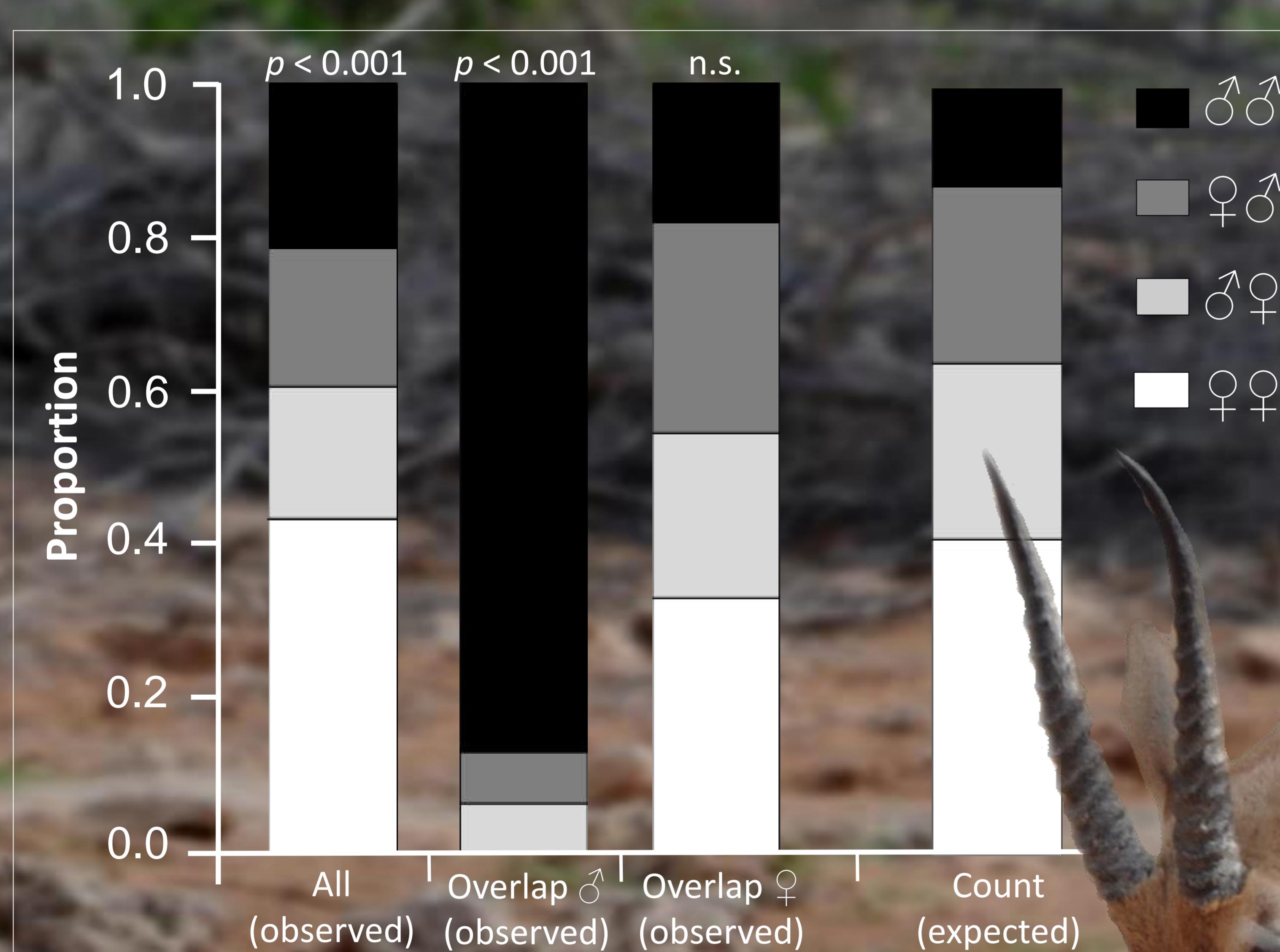


Fig. 2: Proportion of Information exchange through latrines for signals sent by a gazelle entailing the response of another gazelle. Expected proportions for the four categories of information exchange calculated from the observed sex ratio obtained during bi-annual gazelle surveys.

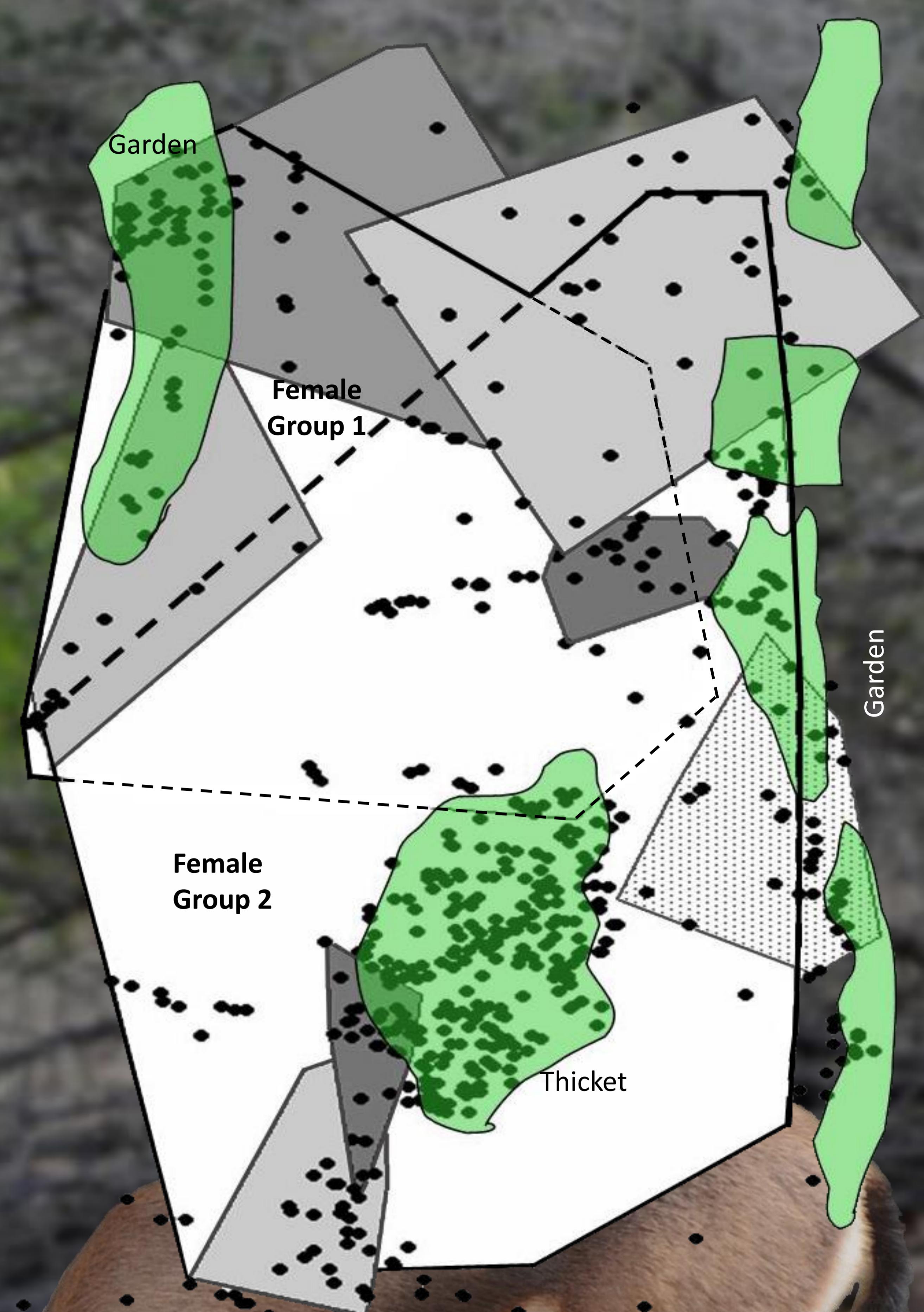


Fig. 1: Position of 577 latrines in home ranges of two female groups (dashed lines = overlap) and 7 territorial males (grey polygons). Green areas represent areas of dense vegetation.

Results

Latrine density, size and # fresh pellets were highest for latrines in the center of female home range groups (core marking) whereas multiple regression found no correlation that points towards male territory marking at the periphery (Fig. 1). However, chi²-test revealed a significantly higher frequency of male – male communication events at latrines located in territorial overlap areas (Fig. 2).

Discussion

We suggest different functions of latrine use in both sexes: a primarily non-territorial communicatory context for females, which appear to communicate primarily with other members of their social groups and a territorial context for males, which communicate with other territory holders or

non-territorial males via latrines at the periphery of their territories. Our study highlights how male territorial marking can be masked when males and females use the same marking system for different purposes.