



Ecology of the woodland dormouse in a Riverine *Combretum* forest (Great Fish River Reserve, EC)

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SOUTH AFRICA**



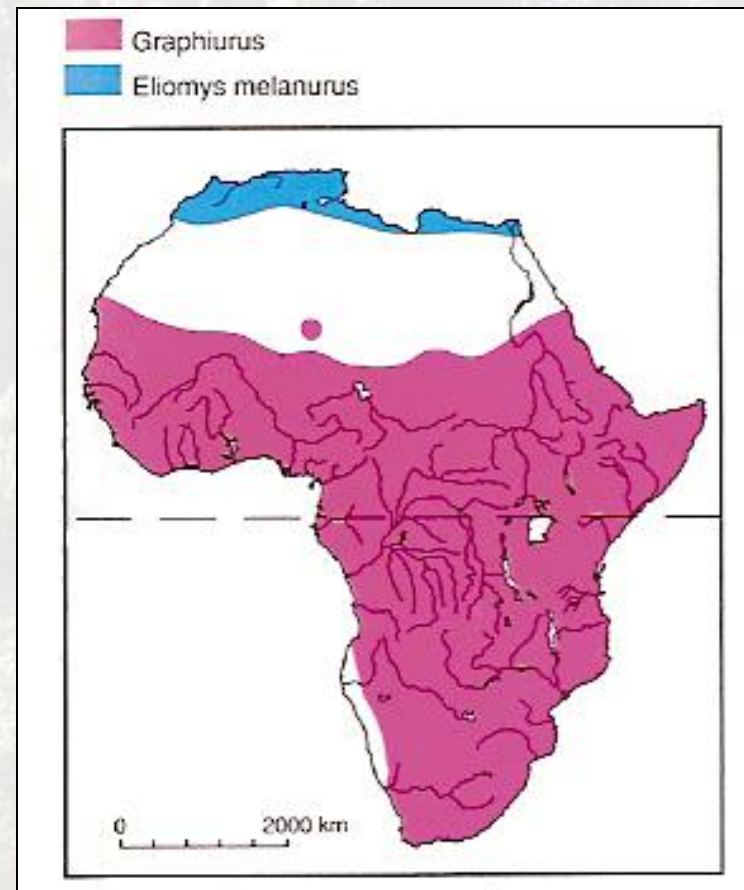
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Together in Excellence



> Research on African dormice

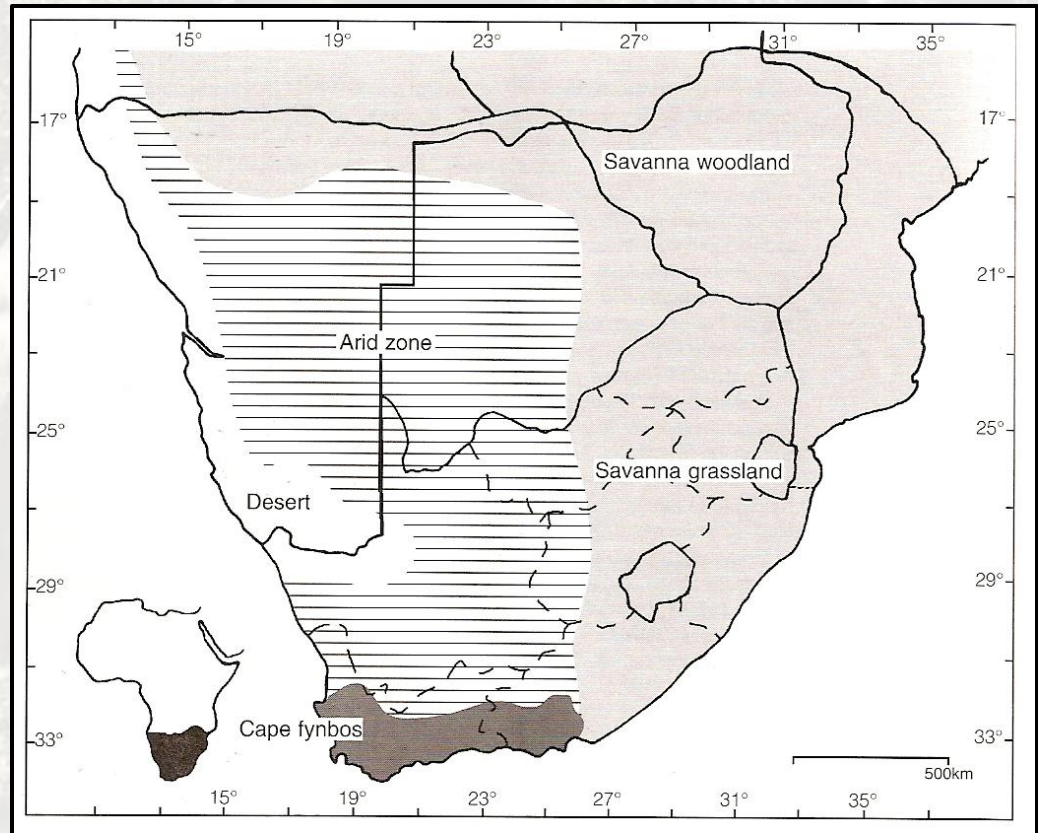
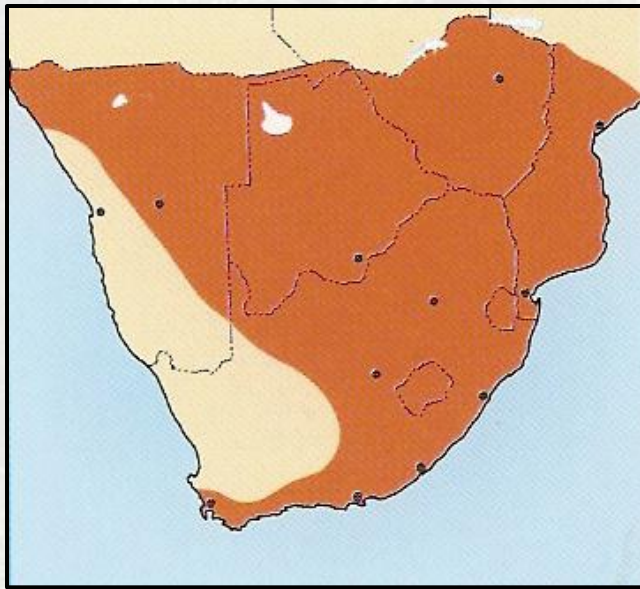
Elyomys melanurus
+ 14 *Graphiurus* species

< 15 papers !!!





➤ Distribution of *G. murinus*





➤ Past research on *G. murinus*

Live trapping

Nestbox
monitoring



> Past research on *G. murinus*

Live trapping

Nestbox
monitoring

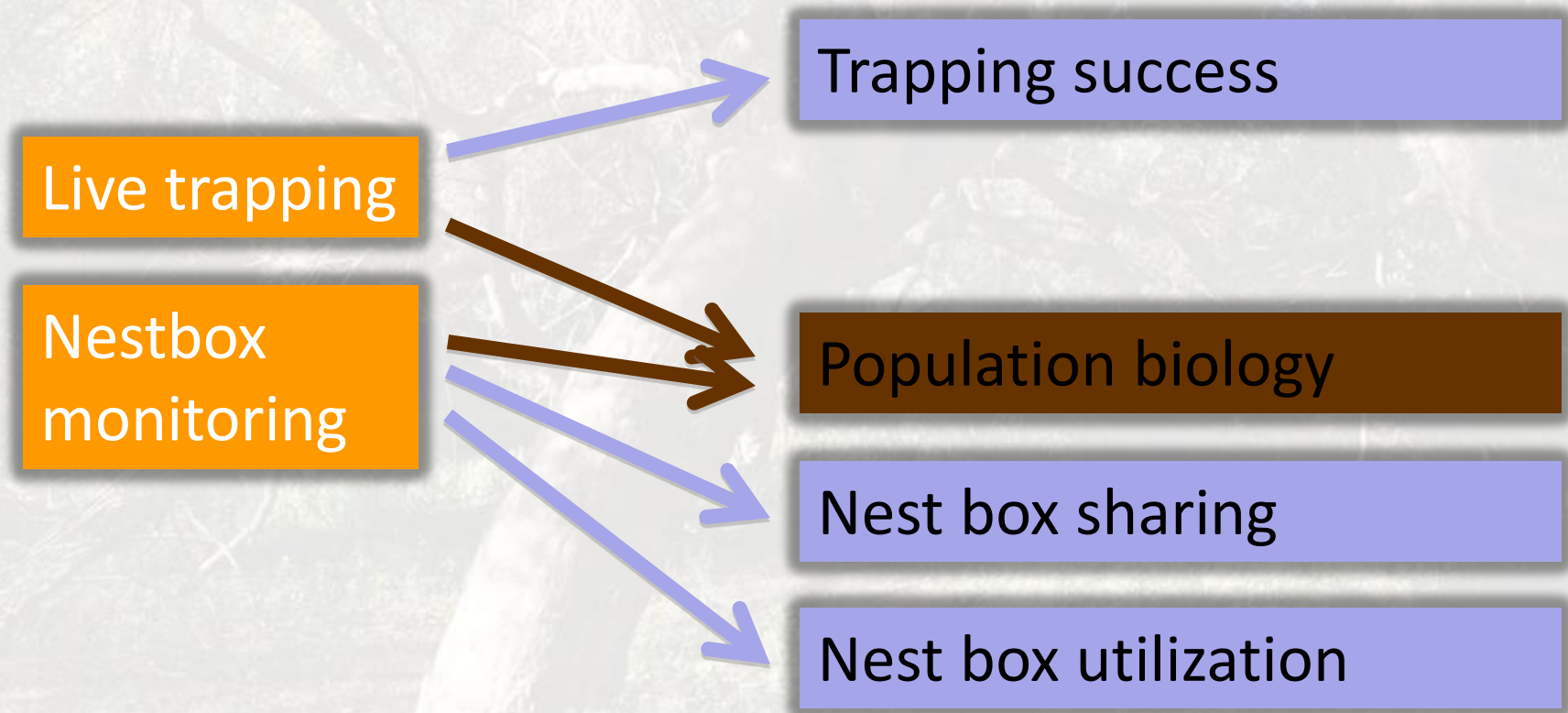
Trapping success

Nest box sharing

Nest box utilization

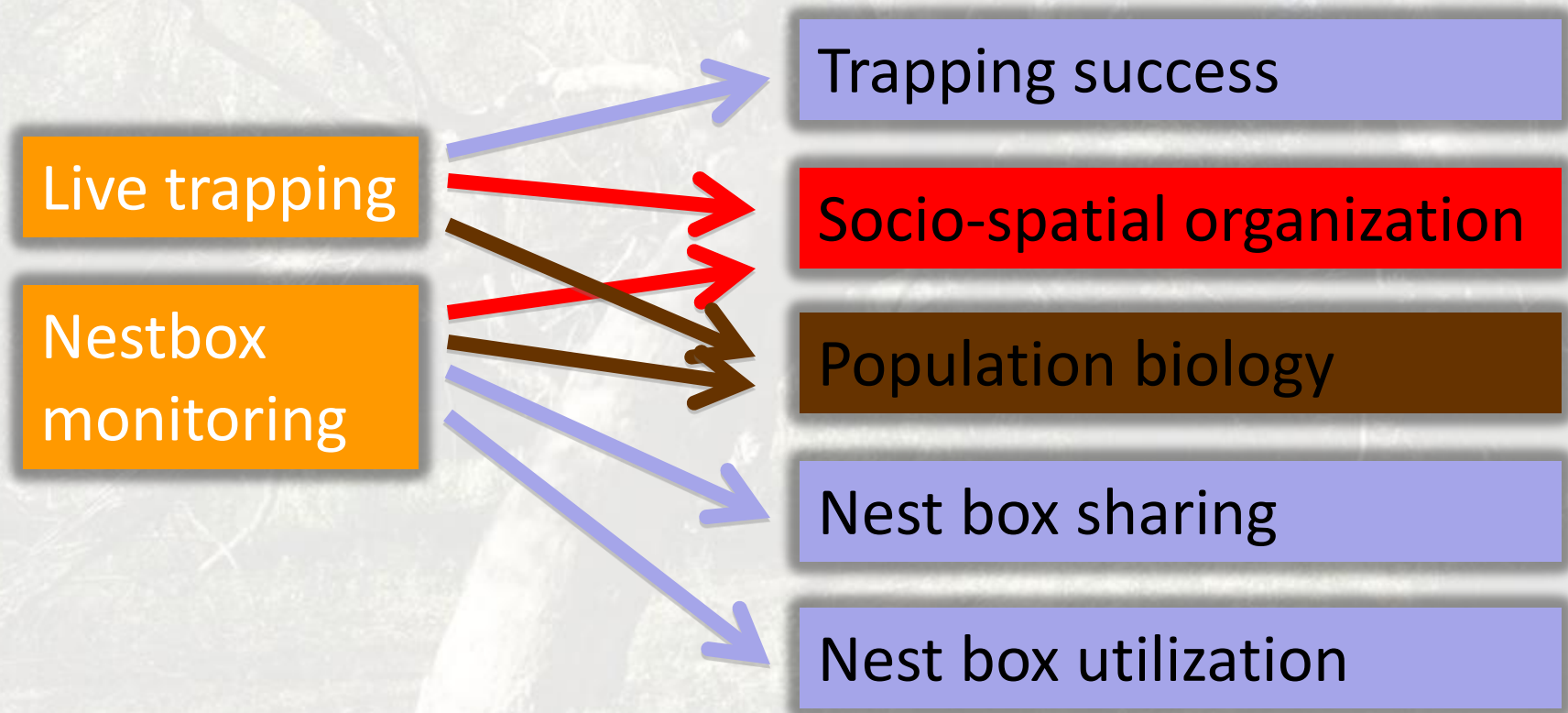


> Past research on *G. murinus*





> Past research on *G. murinus*





➤ Current research on *G. murinus*

Radio-tracking



Resting site ecology

Socio-spatial organization



➤ Current research on *G. murinus*

Radio-tracking

Scats + food
remains

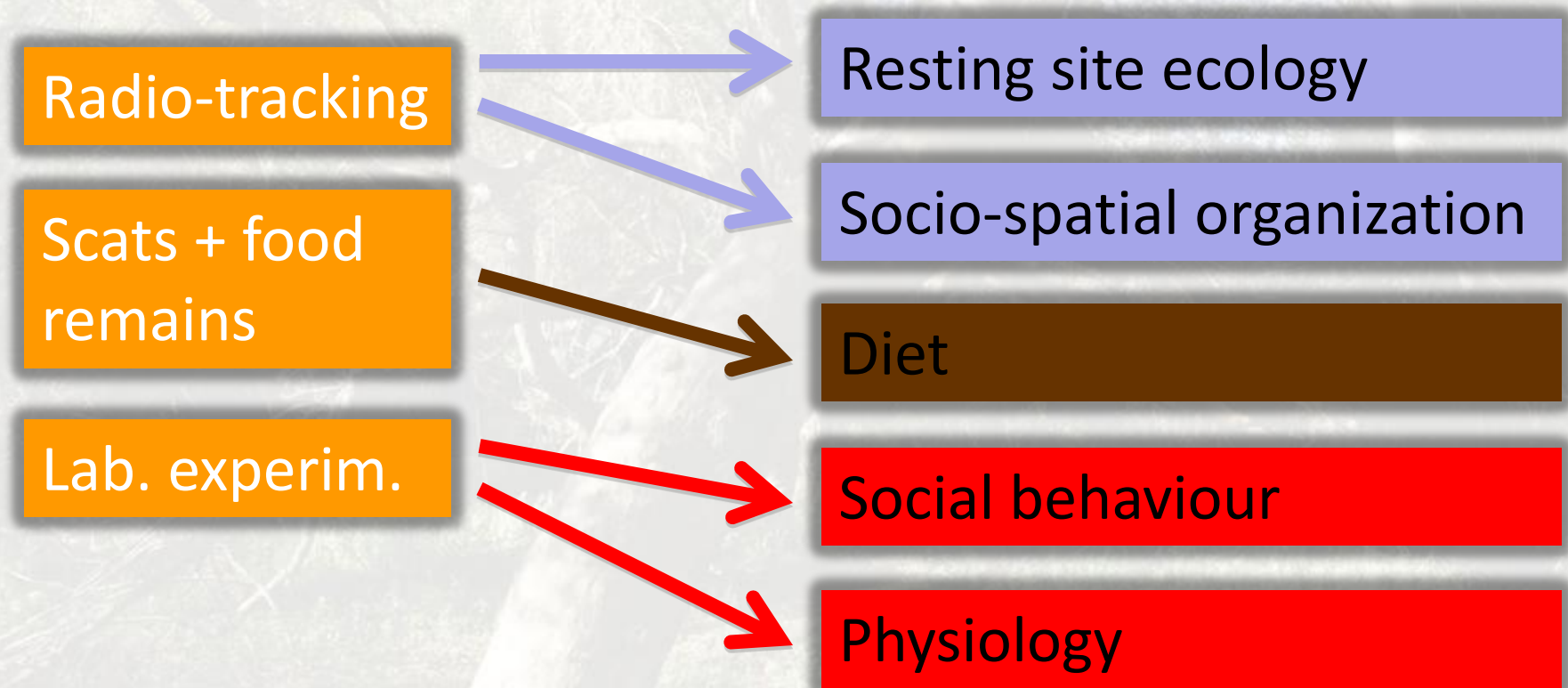
Resting site ecology

Socio-spatial organization

Diet

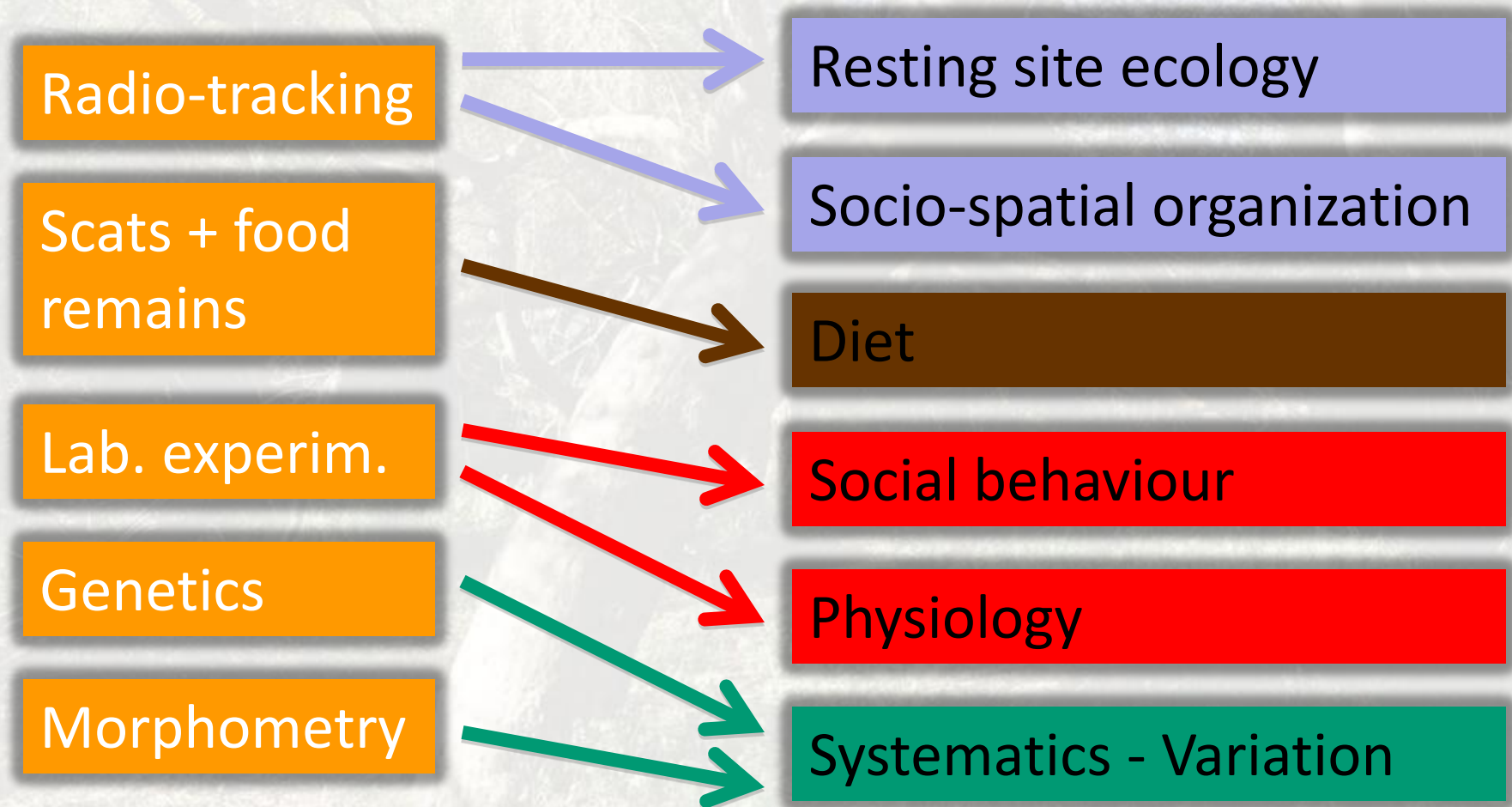


➤ Current research on *G. murinus*





➤ Current research on *G. murinus*

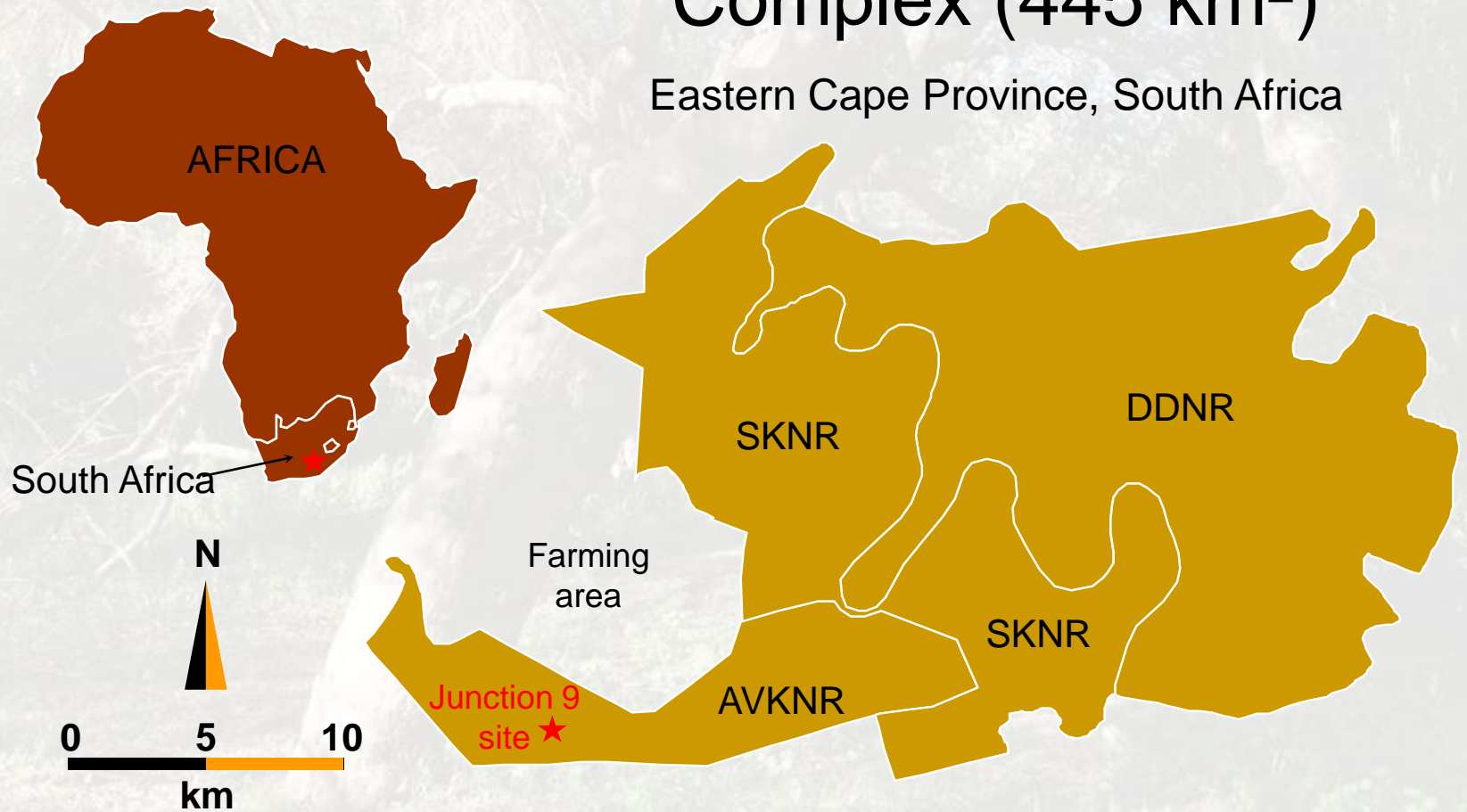




> Where?

Great Fish River Reserve Complex (445 km²)

Eastern Cape Province, South Africa





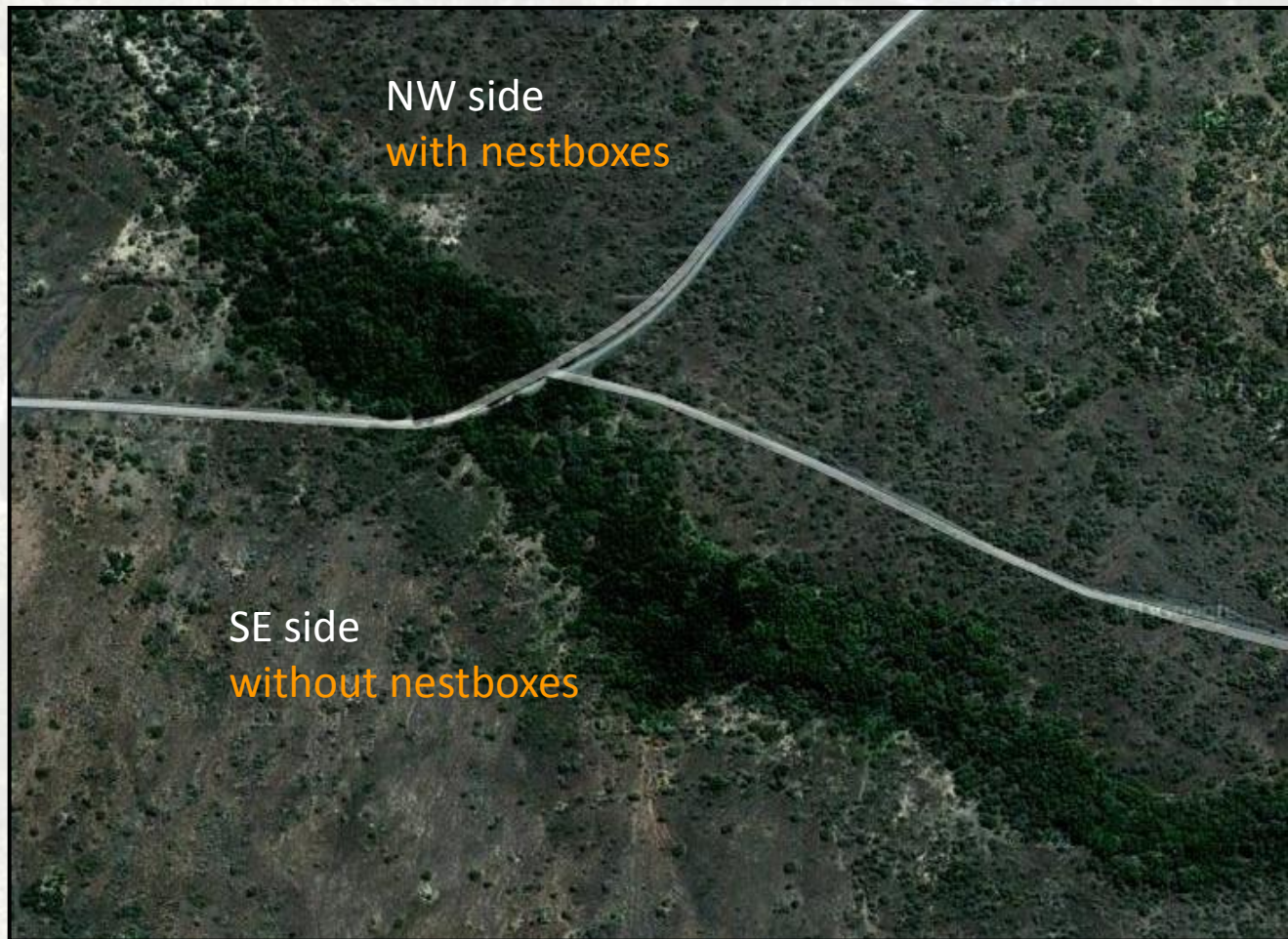
➤ Riverine *Combretum* forest (1)



Study area



➤ Riverine *Combretum* forest (2)



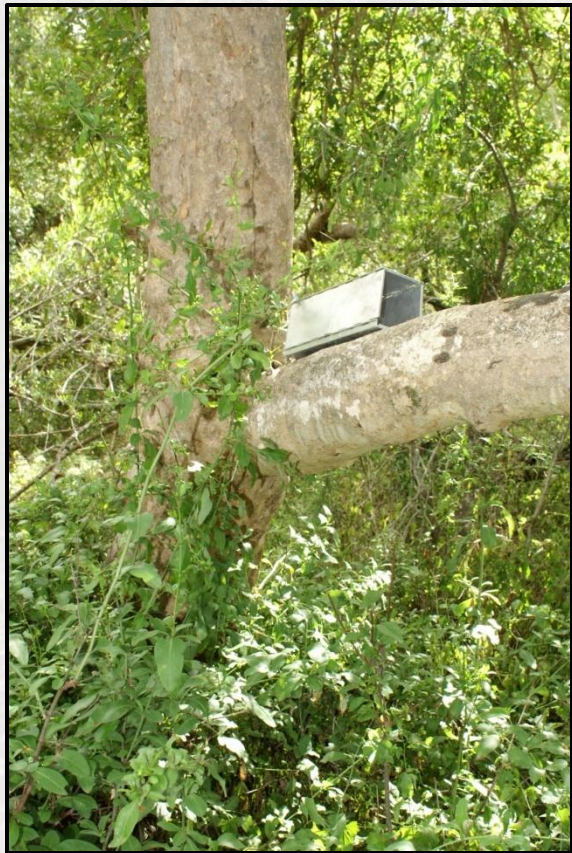


➤ Riverine *Combretum* forest (3)





➤ Live trapping



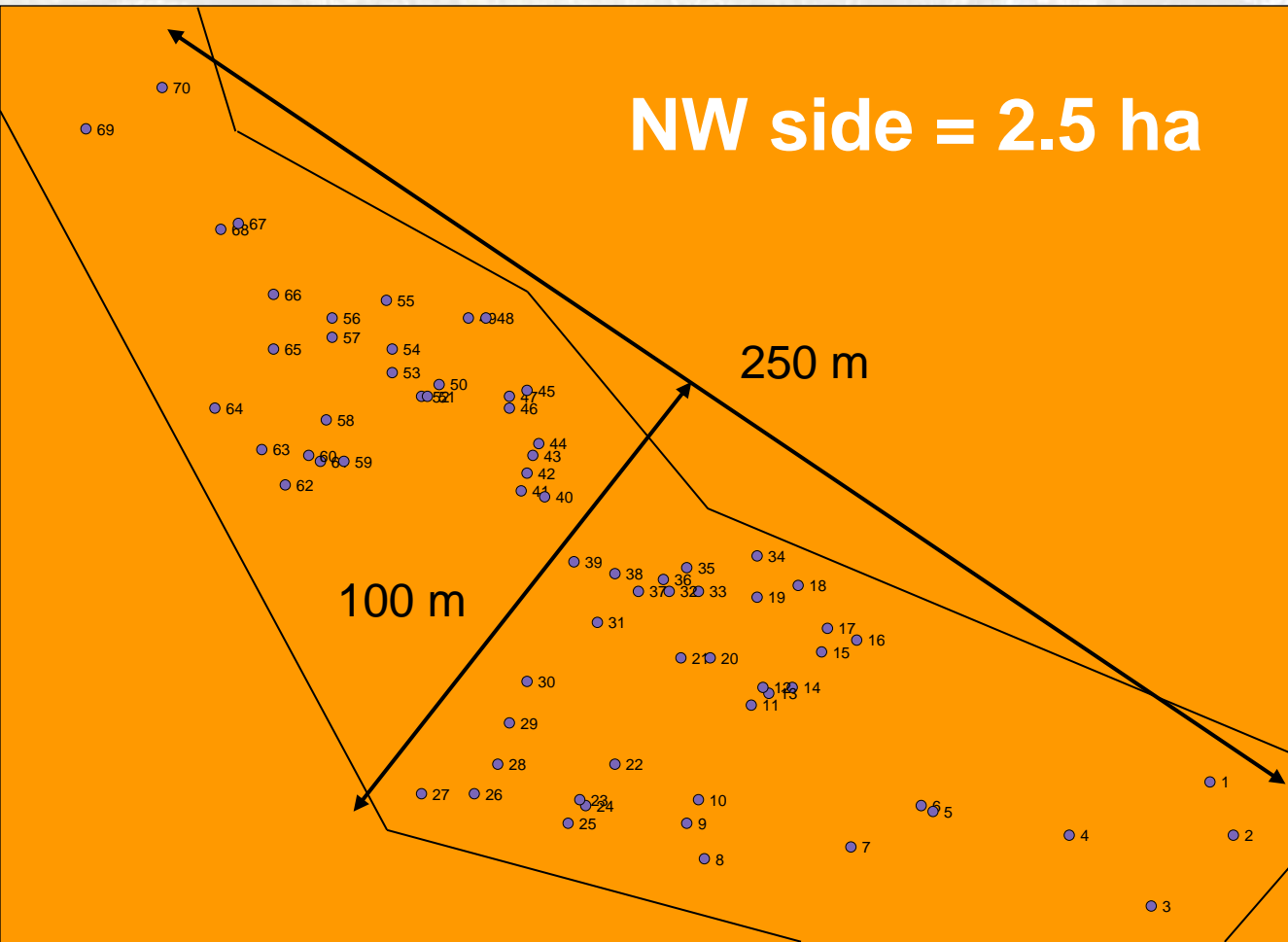


> Marking of animals





> Nestboxes





➤ Radio-tracking





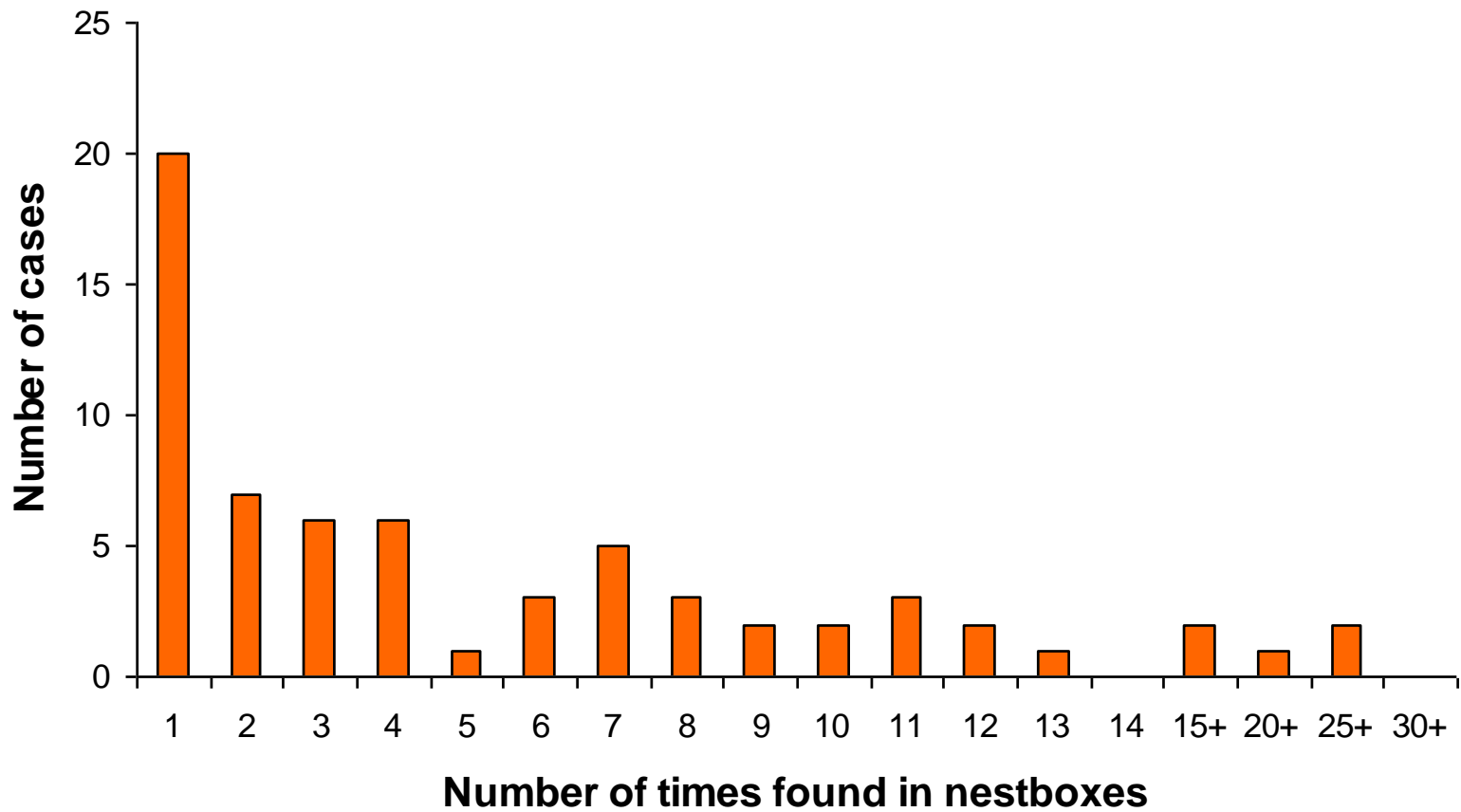
> Trapping success

Seasonal variation in the percentage of traps (\pm SD) containing different age- and sex-classes of the woodland dormouse between February 2006 and June 2007 in the study area. n = number of trapping nights conducted during each season.

Season	n	Adult males	Adult females	Adults	Juveniles	Total
Spring	13	3.19 \pm 1.94	3.61 \pm 1.99	7.08 \pm 2.37	0.69 \pm 1.32	7.78 \pm 2.28
Summer	11	2.07 \pm 1.46	7.11 \pm 2.12	9.45 \pm 1.01	9.59 \pm 7.41	19.04 \pm 7.88
Autumn	8	2.27 \pm 4.51	3.48 \pm 5.30	5.76 \pm 8.81	10.97 \pm 4.89	16.72 \pm 9.72
Winter	3	2.02 \pm 1.75	3.03 \pm 0.00	5.05 \pm 1.75	0.00 \pm 0.00	5.05 \pm 1.75

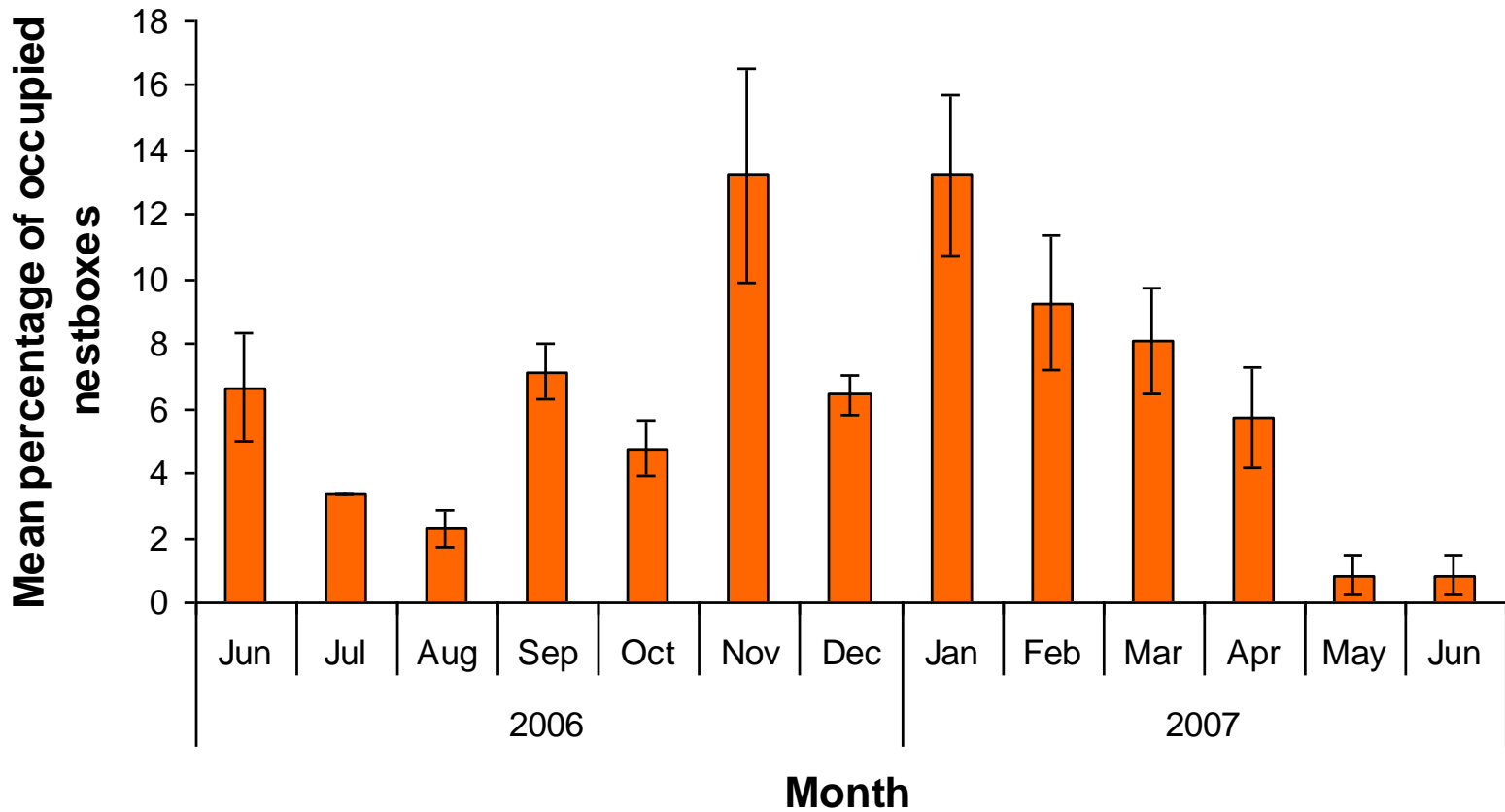


> Nest box use (2)



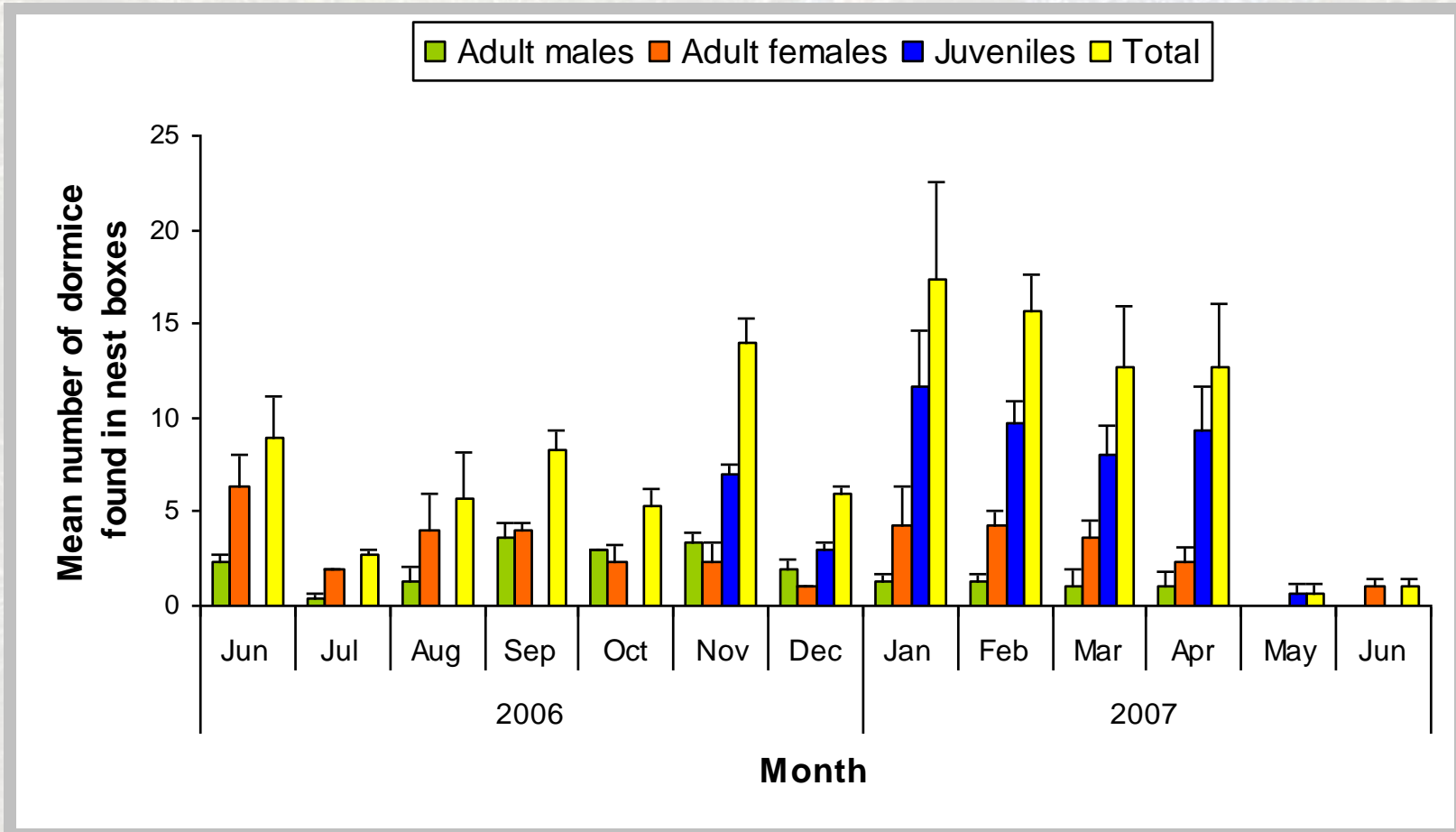


> Nest box use (3)



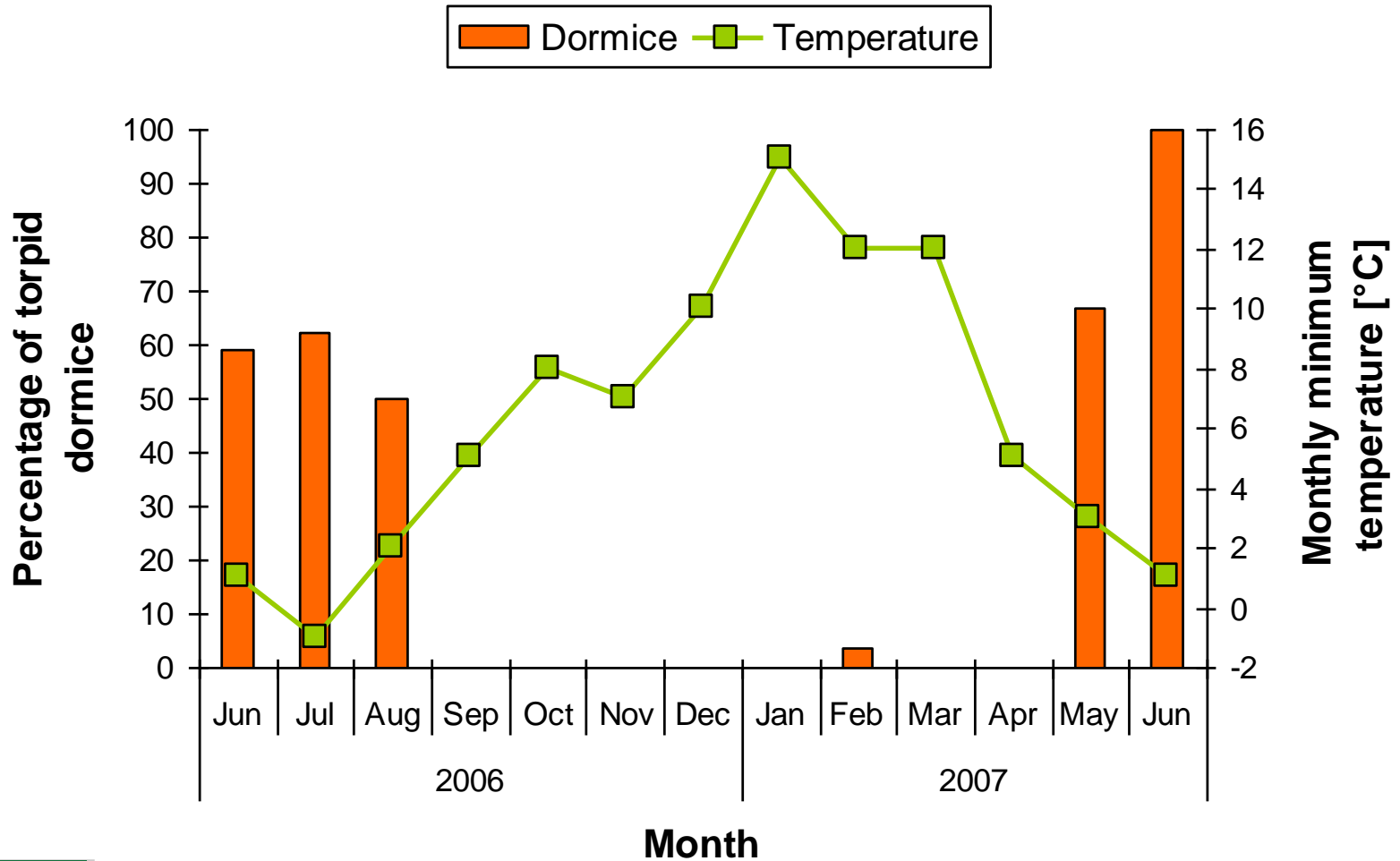


> Nest box use (4)



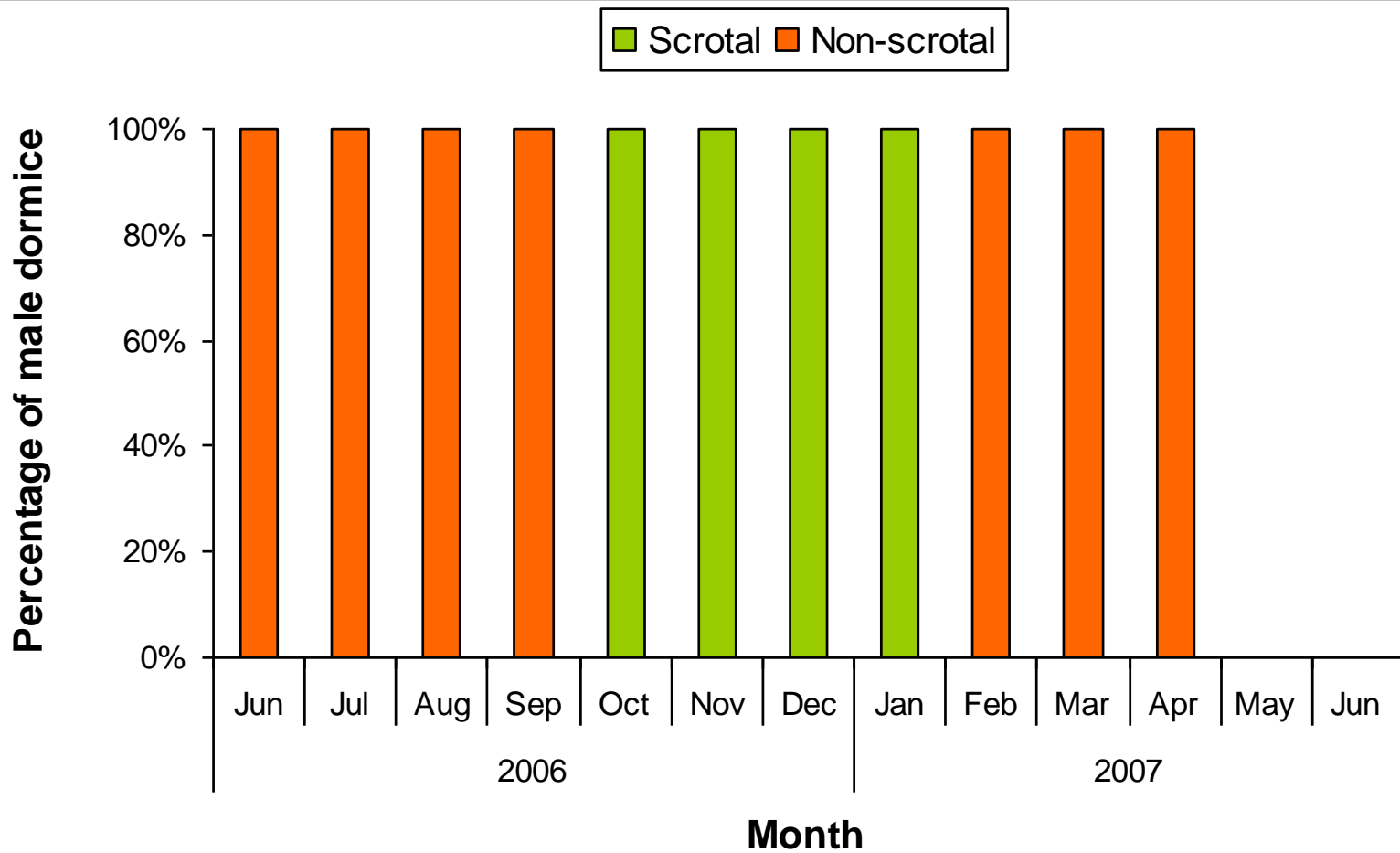


> Occurrence of torpor



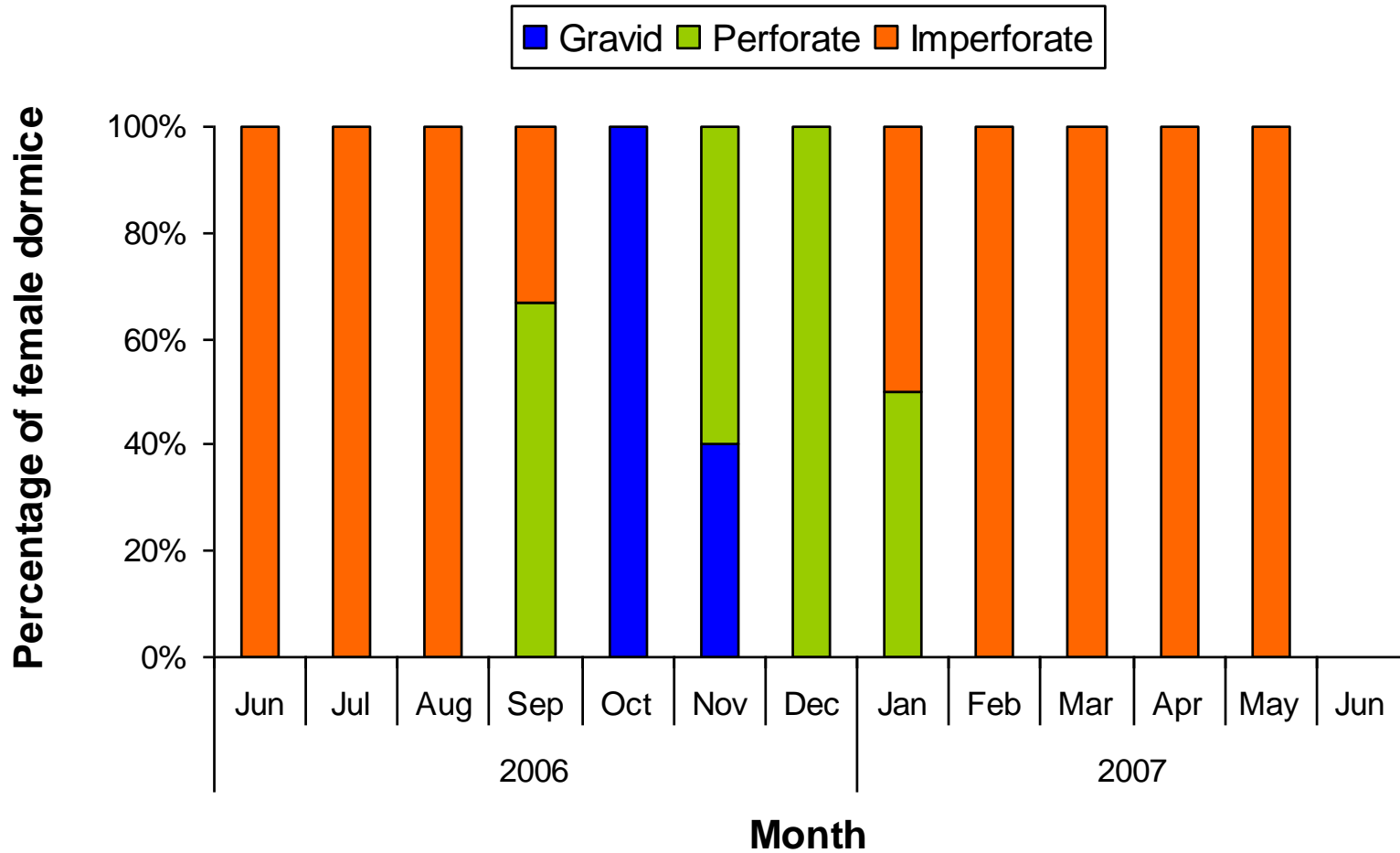


> Reproduction: Males



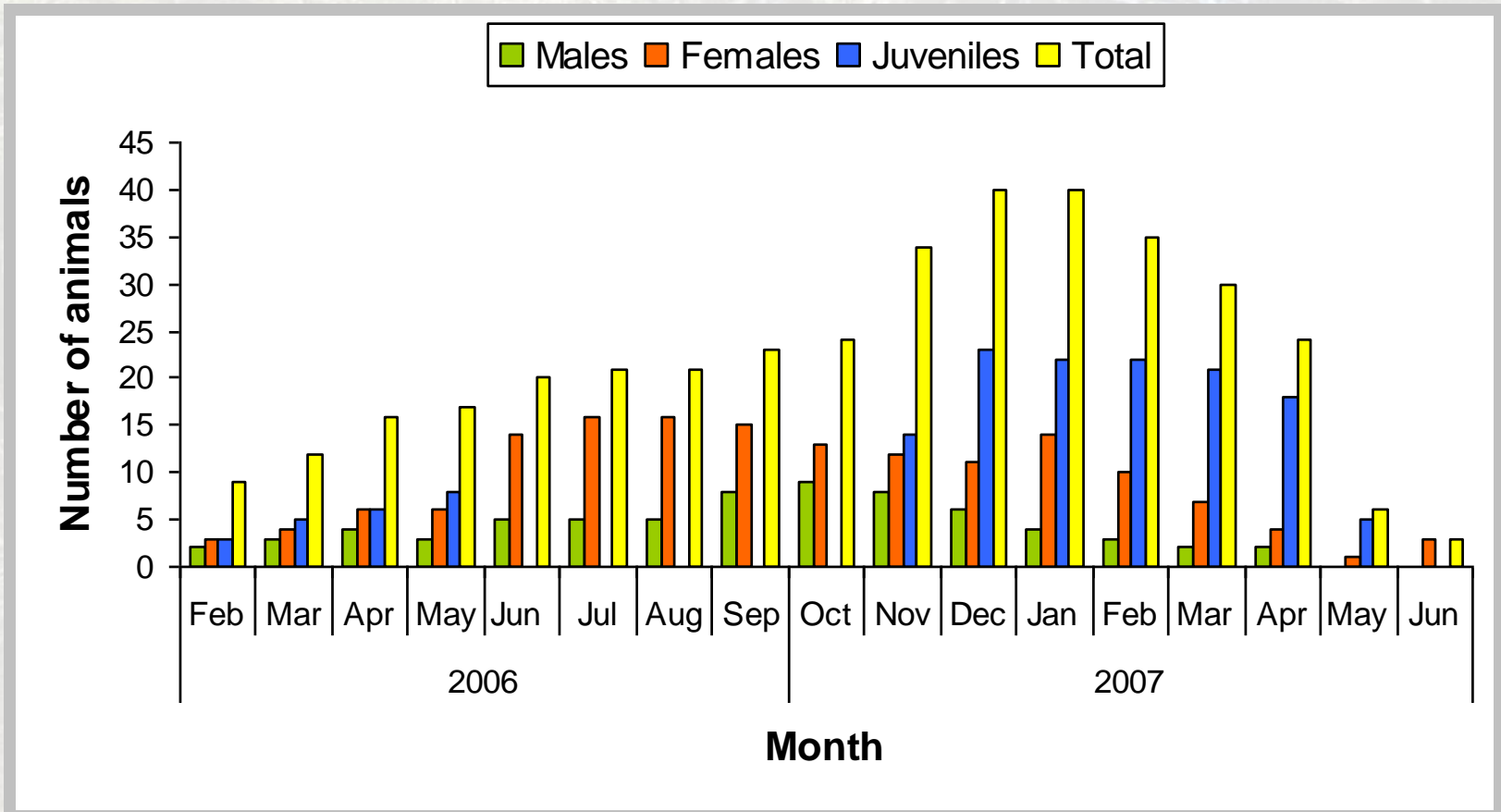


> Reproduction: Females





> Population dynamics





> Nest box sharing (1)

Of the 247 instances where dormice were found in nestboxes:

- 64% concerned single individuals
- 36% were linked to associations of at least 2 dormice

Of the latest (n = 90):

- 50% comprised exactly 2 individuals
- 27% constituted of 3 animals
- 23% were formed of 4 to 10 dormice





> Nest box sharing (2)

Associations	Aug-Oct (n = 21) [%]	Nov-Jul (n = 69) [%]	Year (n = 90) [%]
Two females or more	19.0	2.9	6.7
Two males or more	33.3	1.4	8.9
Female(s) + male(s)	19.0	2.9	6.7
Female(s) with 1 young or more	9.5	44.9	36.7
Male(s) with 1 young or more	4.8	8.7	7.8
Female(s) + male(s) + 1 young or more	0.0	4.3	3.3
Two young or more	0.0	34.8	26.7
Others (e.g. unidentified animals)	14.3	0.00	3.3
Total	100.0	100.00	100.0



> Socio-spatial organization (1)

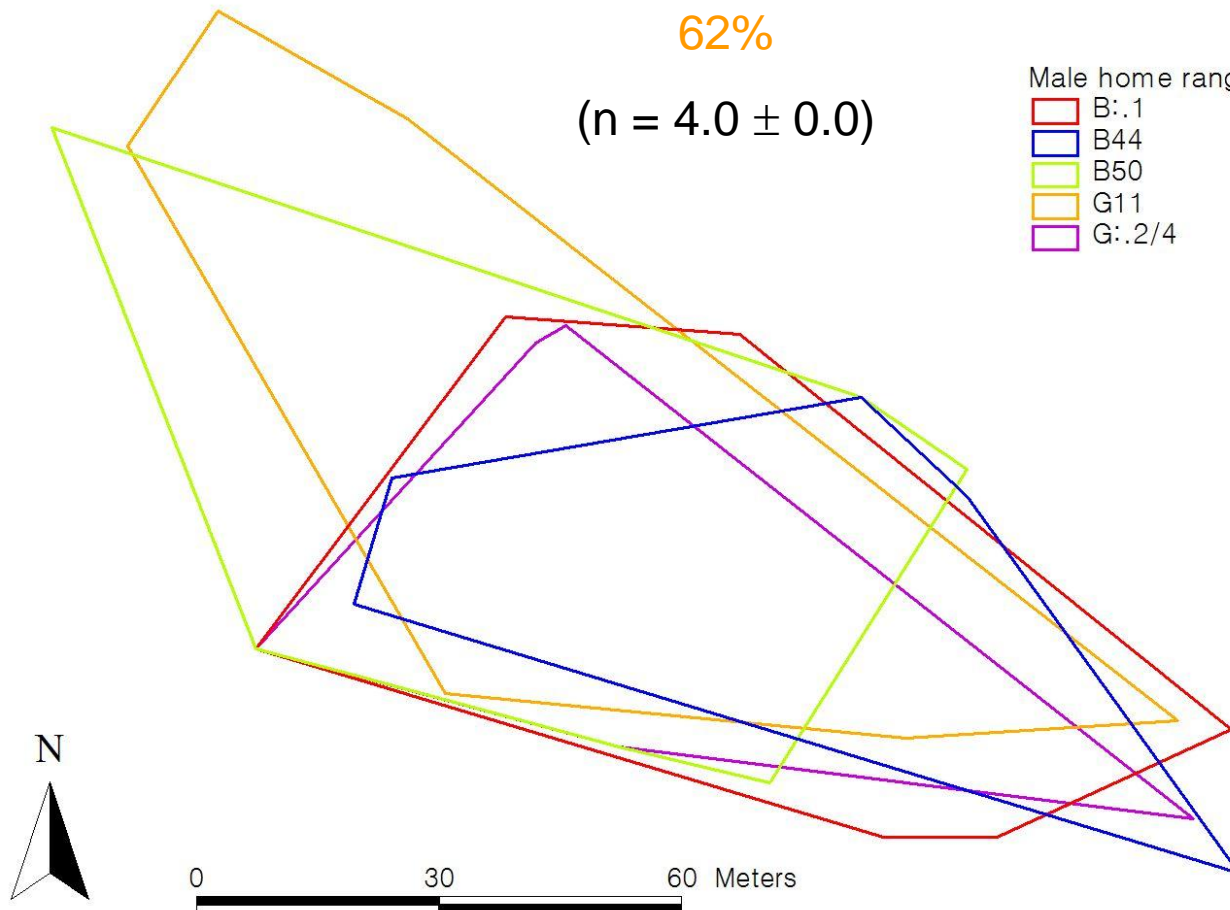
Mean Male-Male overlap:

62%

($n = 4.0 \pm 0.0$)

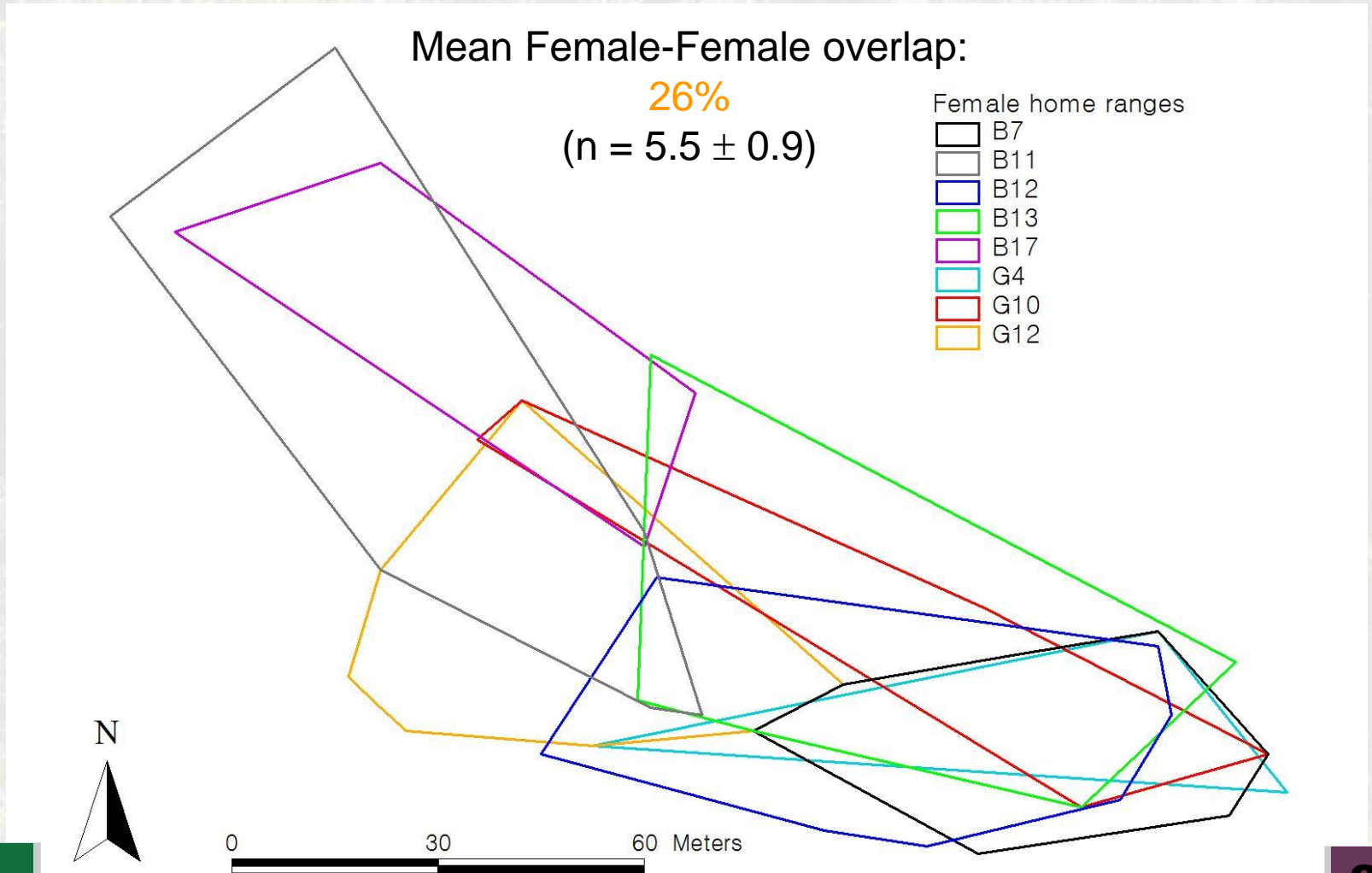
Male home ranges

- B:.1
- B44
- B50
- G11
- G:.2/4





> Socio-spatial organization (2)





> Which tree species are used?

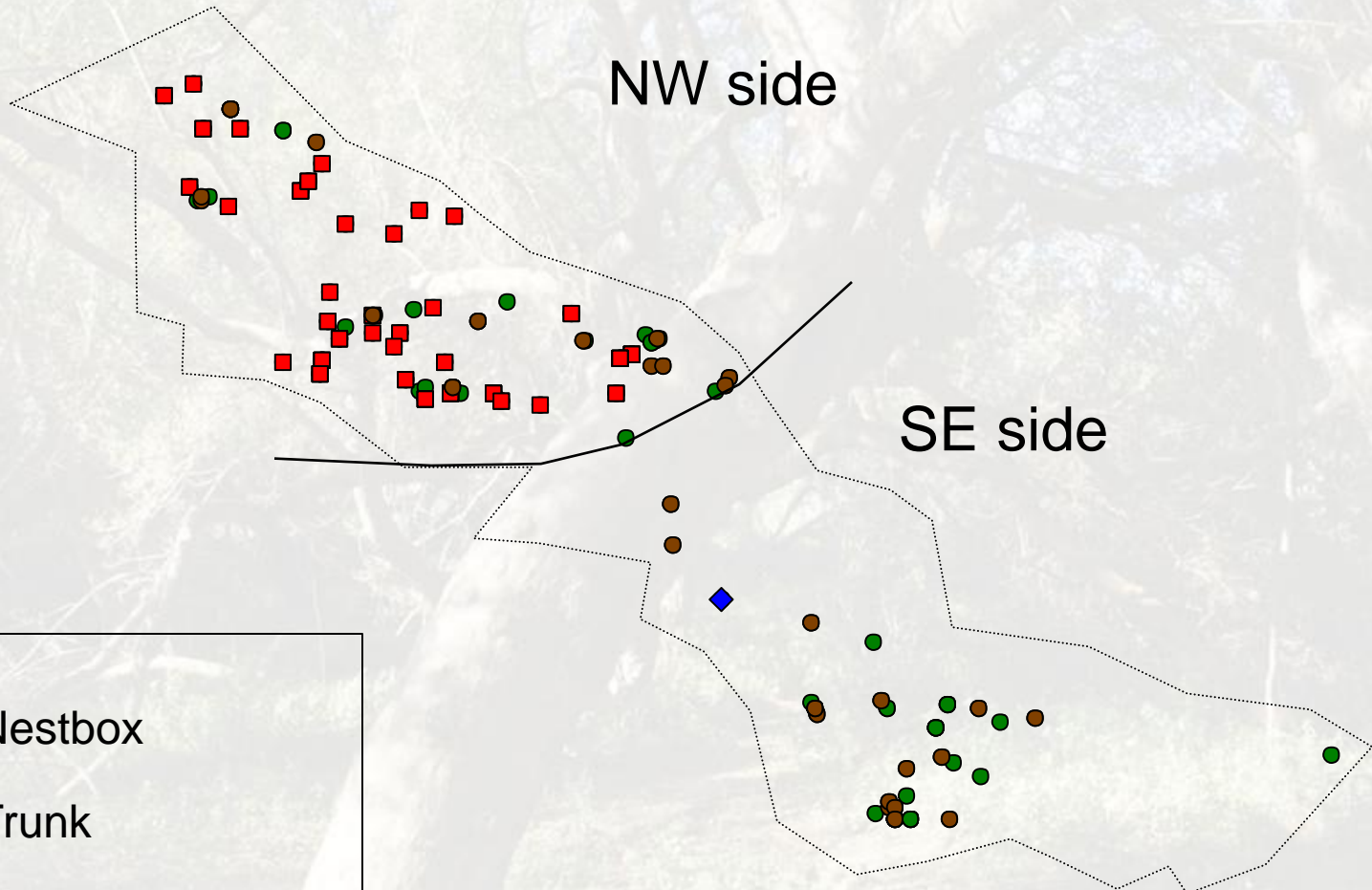
Tree species	Total	%
<i>Combretum caffrum</i>	135	86.5
<i>Ziziphus mucronata</i>	12	7.7
<i>Rhus pyroides</i>	3	1.9
<i>Olea europaea</i>	3	1.9
<i>Acacia karoo</i>	2	1.3
<i>Maytenus heterophylla</i>	1	0.6
TOTAL	156	100.0



> What types of RS are used?

RS type	Total	%
Nestbox	74	47.4
Branch	47	30.1
Trunk	34	21.8
Underground	1	0.6
Total	156	100.0

Distribution of resting sites



- Nestbox
- Trunk
- Branch
- ◆ Underground



➤ Use of nestboxes



Combretum





➤ Natural RS vs Nestboxes in females

	Hibernation	Breeding	Total
Natural	21 (84%)	25 (56%)	46
Nestbox	4 (16%)	20 (44%)	24
n	25	45	70

$$\chi^2 = 5.63, df = 1, p = 0.018$$



➤ Use of nestboxes by females





➤ Natural RS vs Nestboxes: breeding period

	Females	Males	Total
Natural	25 (56%)	14 (26%)	39
Nestbox	20 (44%)	40 (74%)	60
n	45	54	99

$$\chi^2 = 8.94, df = 1, p = 0.003$$



➤ Nestbox use during the breeding period



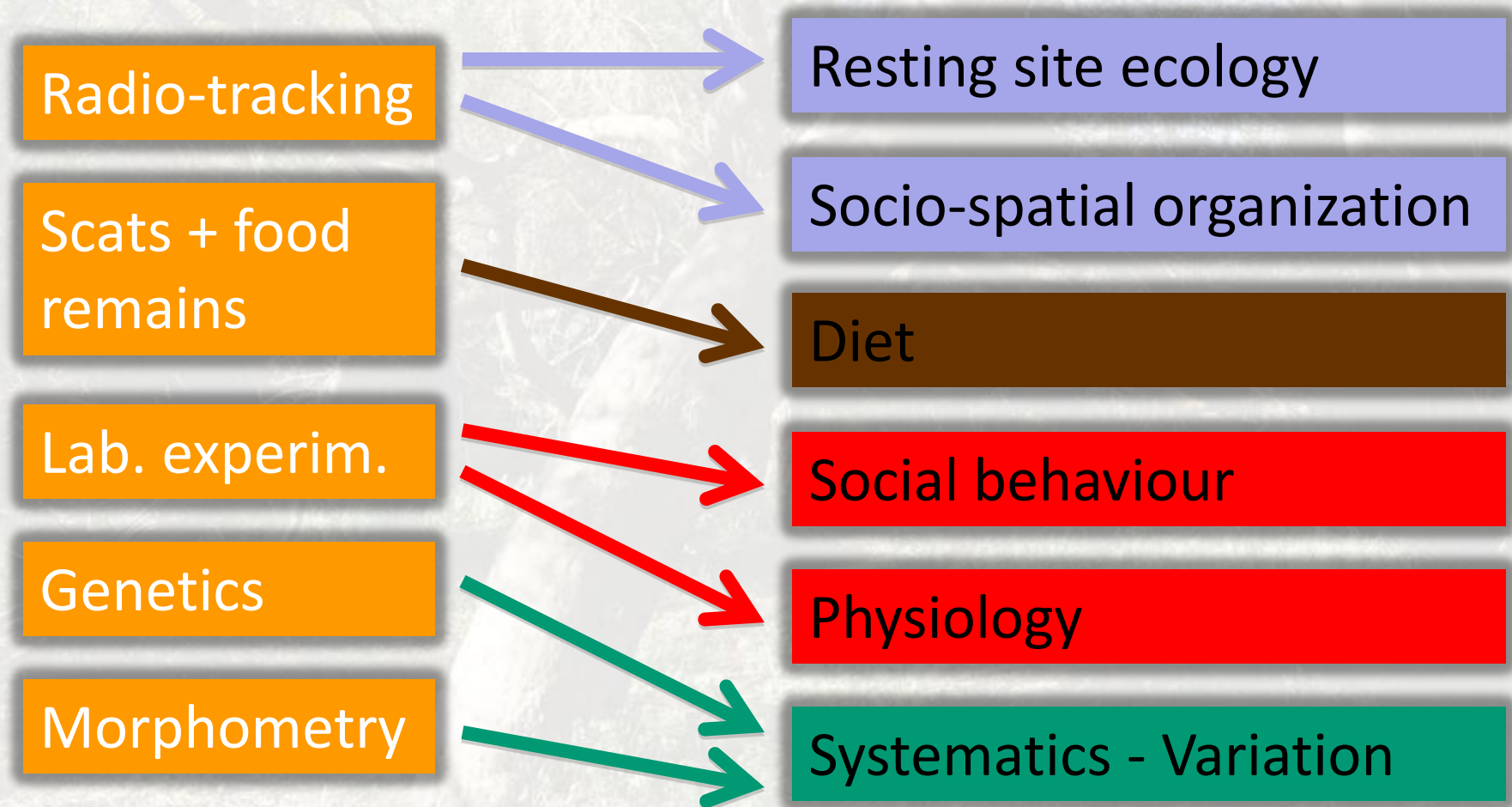


➤ RS: number, fidelity and sharing

	Sex	n	Mean \pm SD	Results
# RS	F	16	7.4 \pm 3.8	<i>t</i> -test
	M	5	12.6 \pm 5.0	$p = 0.023$
SF (%)	F	16	69.6 \pm 20.3	<i>t</i> -test
	M	5	41.3 \pm 29.1	$p = 0.024$
Shared RS (%)	F	16	54.3 \pm 27.8	<i>t</i> -test
	M	5	65.5 \pm 16.1	$p = 0.409$



➤ Current research on *G. murinus*





➤ A BIG THANKS TO...

- Govan Mbeki Research and Development Centre (University of Fort Hare)
- National Research Foundation (RSA)
- Brad Fike, Cathy Dreyer and GFRR staff members
- Eastern Cape Parks & Tourism Agency (Dean Peinke, Dave Balfour)



**THANK YOU
FOR YOUR
ATTENTION!**