Kingdon 1980

Visual biases and the evolution of species discrimination in guenons

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Thank you!

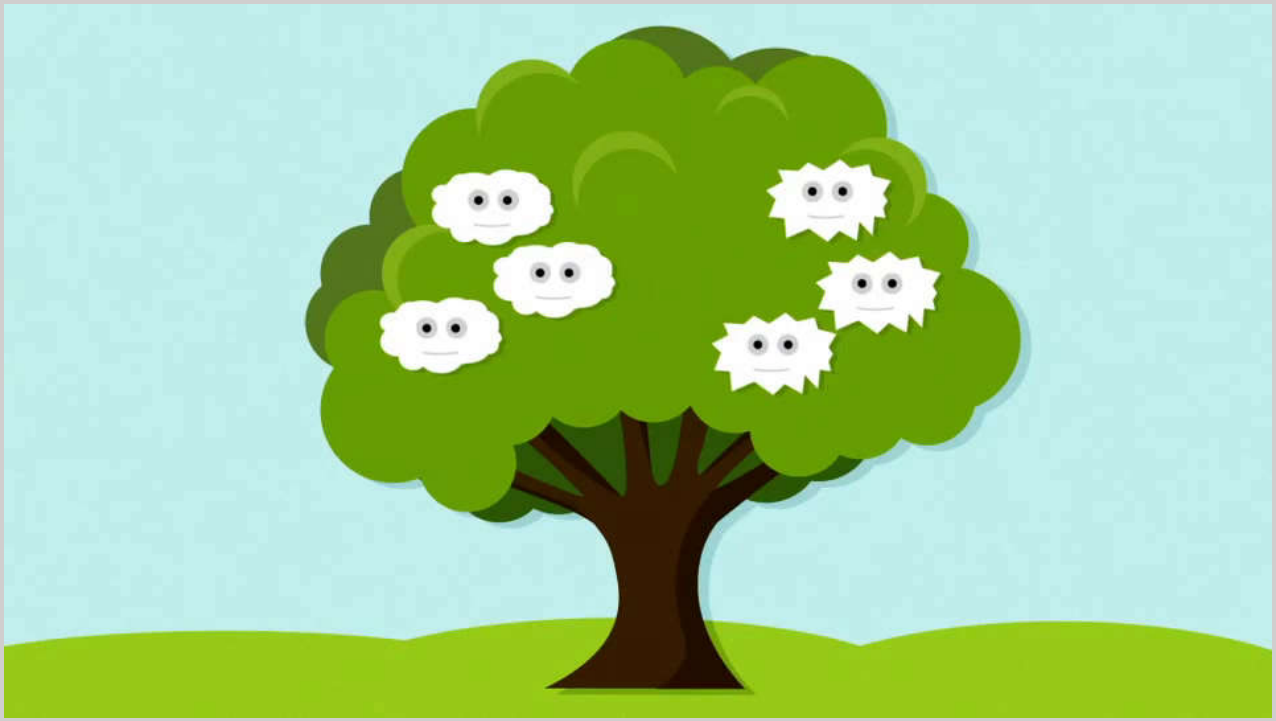
Will Allen

Claire Coulson

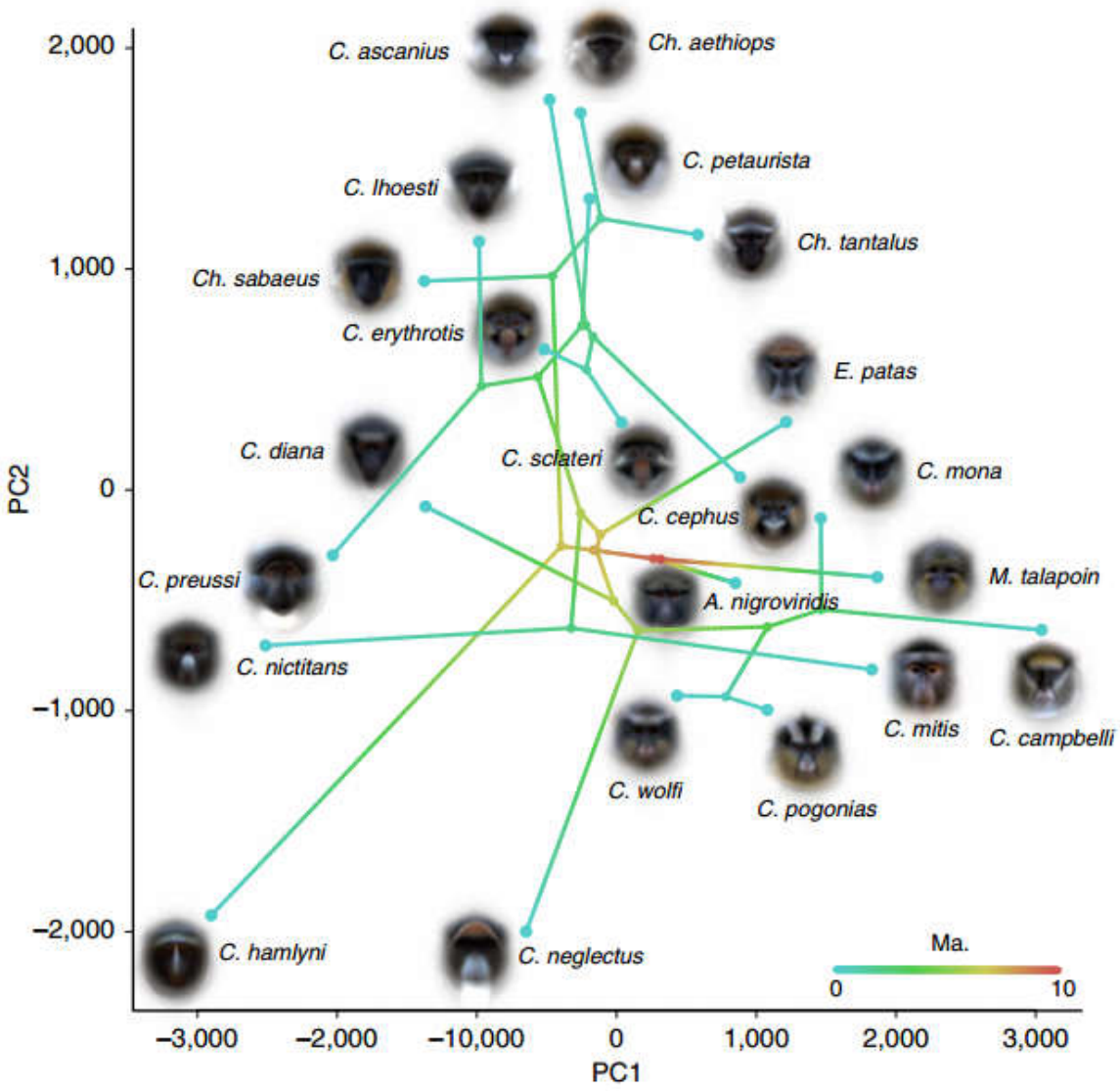
Isabelle Theyse

Kathryn Yee

Anthropology



First two dimensions of guenon facial distinctiveness in phylomorphospace



Allen et al. 2014
Nat Comm

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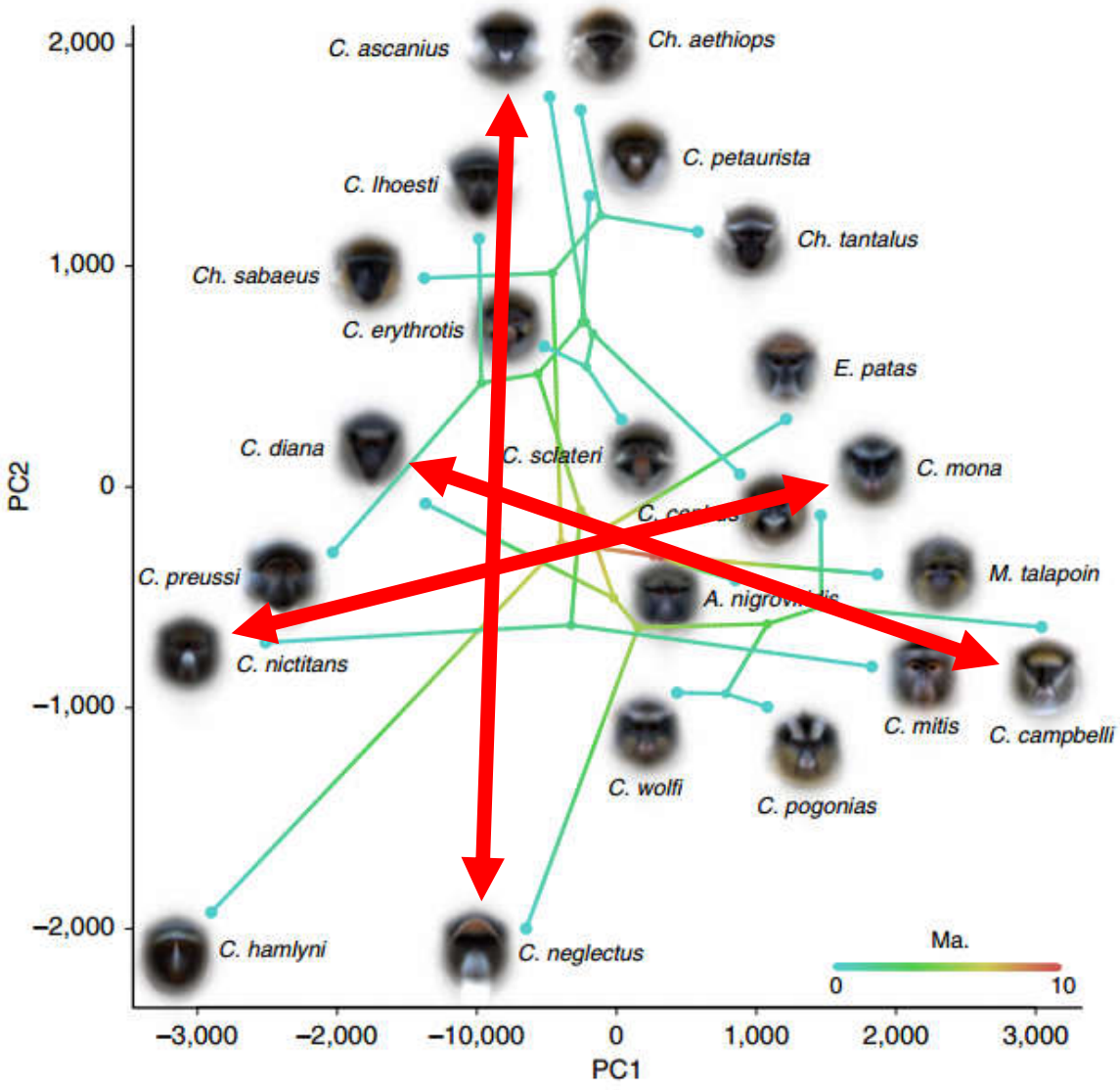

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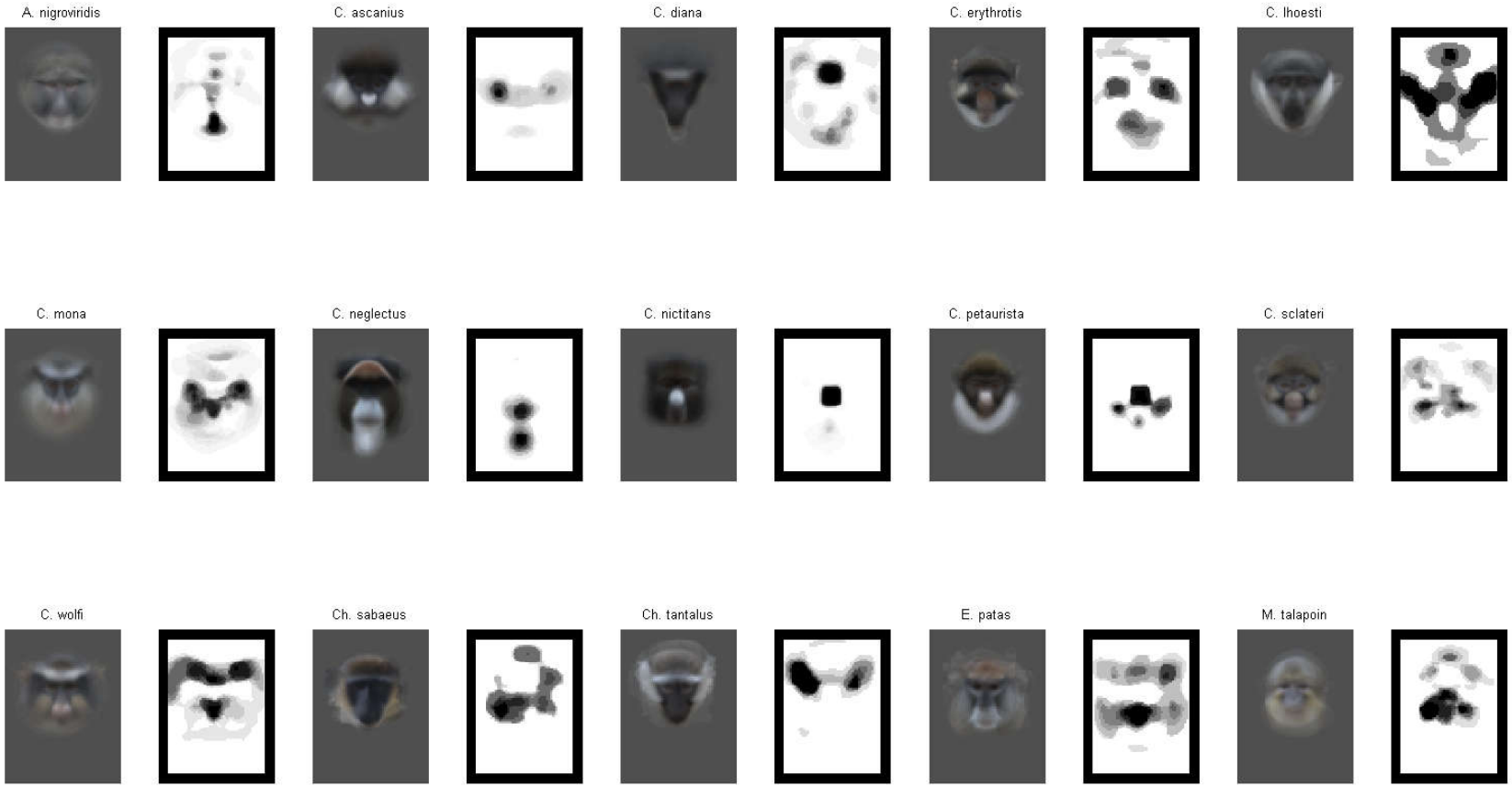

Likelihood of correct classification based on occlusion of different face regions.
White areas – unimportant. Dark areas – important.

Winters et al. In prep

Face patch segmentation:

(using pulse coupled neural networks)

Nose spots

Eyebrow patches

Allen & Higham
Proceedings B

Face patch segmentation:

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Nose spots

Putty nosed monkey

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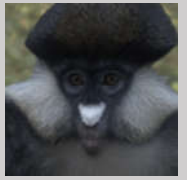
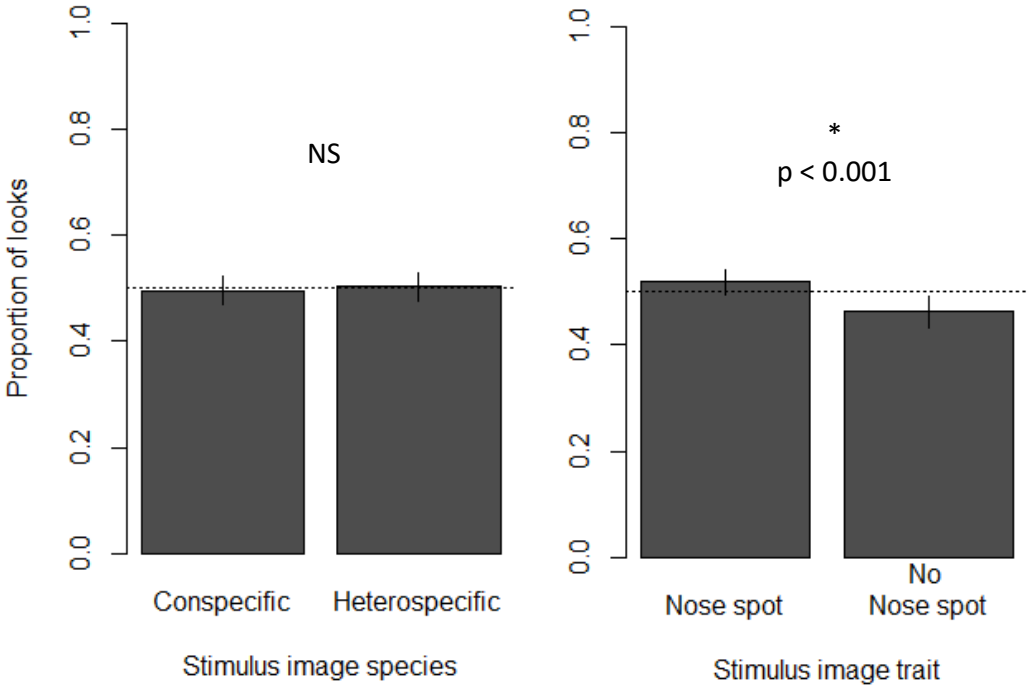
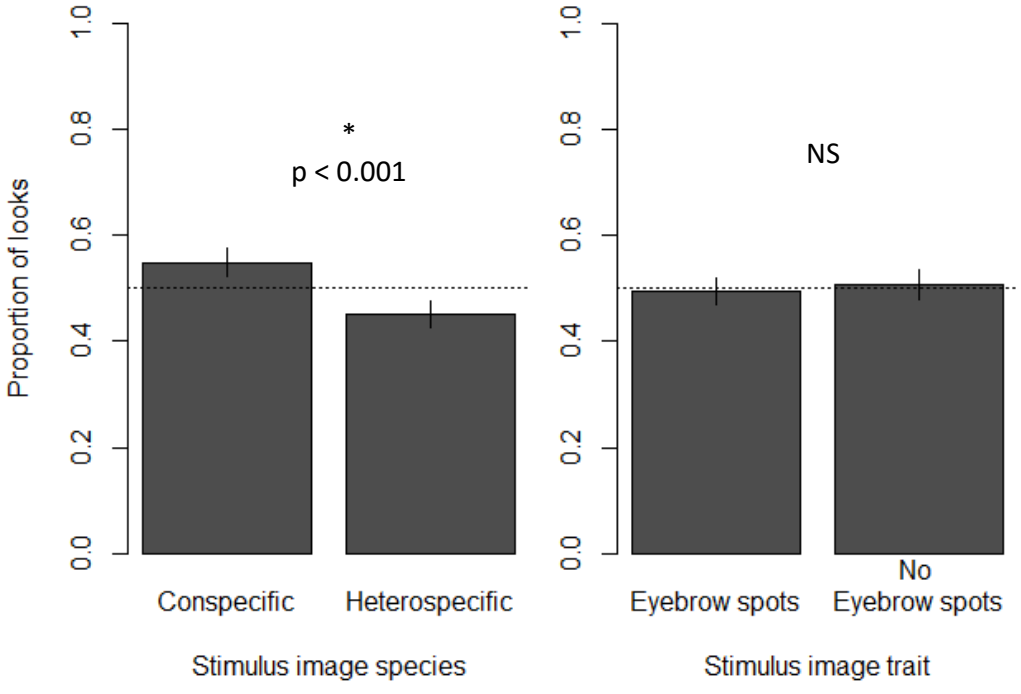


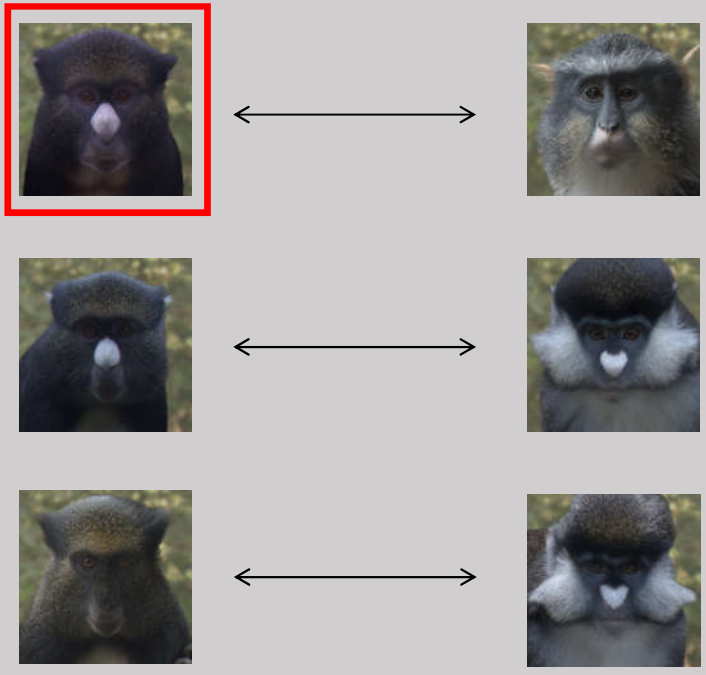
Species and trait biases

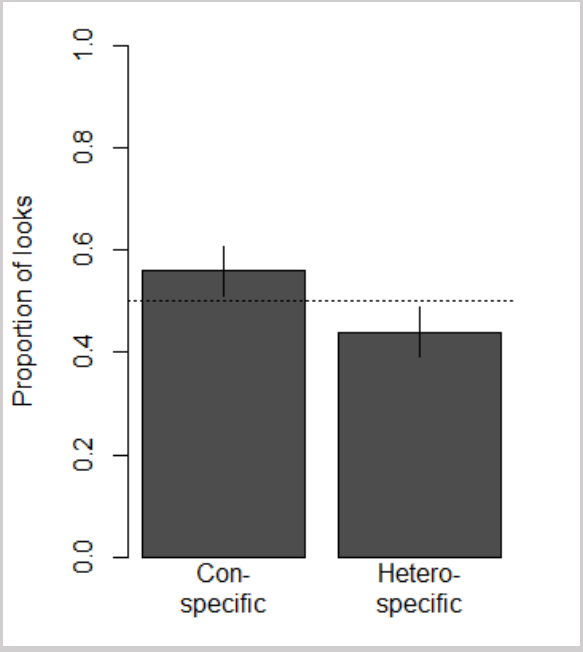
Putty nosed monkeys

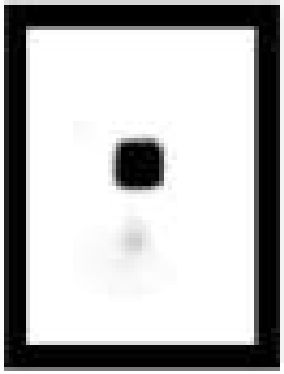


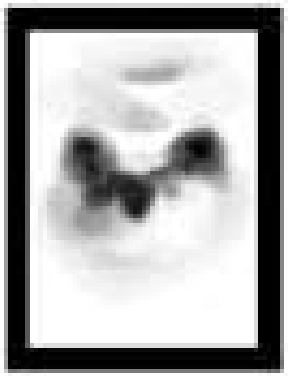
Mona monkeys






Proportion of looks
0.0
0.2
0.4
0.6
0.8
1.0
Con-
specific
Hetero-
specific



Conclusions

Facial characteristics influence visual biases in guenons

Visual biases vary by species


Putty nosed monkeys – rely on their putty nose!


Mona monkeys – potentially wider area

Supports role of face patterns in maintaining reproductive isolation