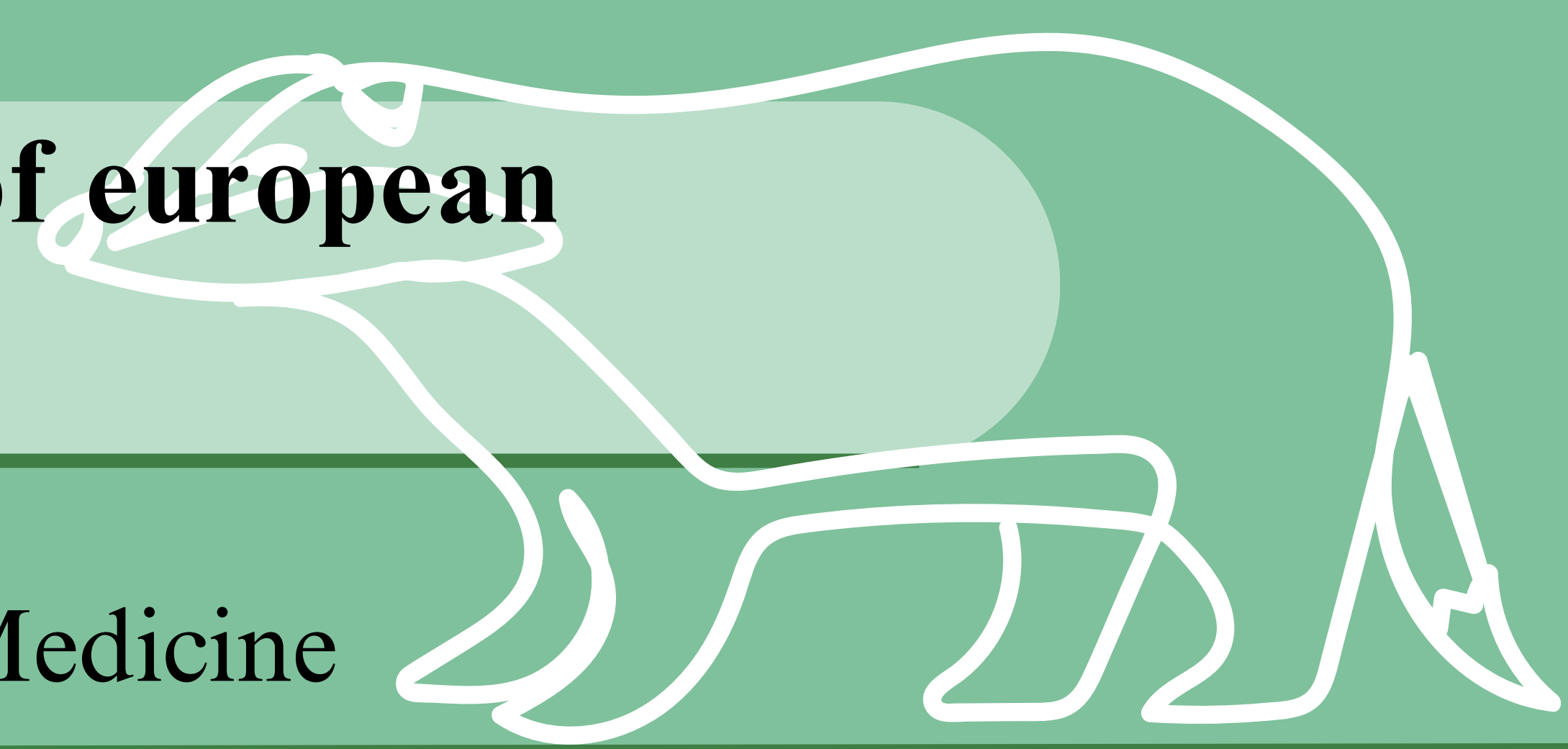


Detection of Demodex mites DNA in hair of european badgers (Meles meles)

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INTRODUCTION

The **Demodex mite** is an arthropod (order Prostigmata) that lives as a commensal ectoparasite in the hair follicles of most healthy mammals, being more important and therefore more researched in domestic animals and humans, in which clinical disease can develop: demodicosis.

However, species have been also described (mostly anecdotally) in all kinds of mammals, such as wild animals. An example is the **badger** (*Meles Meles*), a mustelid carnivore widely distributed in Eurasian landscapes. In this mammal Demodex has been reported twice, but never in Spain and barely described.

AIM OF THE PROJECT

To confirm the **presence of Demodex mites in the European badger** from northern Spain by determining:

- mite prevalence
- body distribution
- phylogenetic relationships with known species of the genus.

RESULTS & DISCUSSION

7/10 badgers positive to qPCR for 16S and 18S
Demodex **PREVALENCE = 70%** ←
common inhabitant of badgers skin

Most frequent location in skin:
Ears, chin and nose (**FACE**) ←
as seen in other mammals



TWO different sequences = *Demodex* individuals
DMX01 & DMX02 ←
DMX01 -> *D. cati* (90-91%)
DMX02 -> *D. canis* (80-88%)
= two different sp of badger *Demodex*?

Table 1. *Demodex* sequences identified in each badger by gene. .

Individual	16S		18S	
	DMX01	DMX02	DMX01	DMX02
MELMEL-23-02	x			x
MELMEL-23-47	x			
MELMEL-M-23-25	x	x	x	x
MMT21001	x	x	x	x
MMT23003		x		
MMT23004		x		x
MMT23005	x		x	

METODOLOGY

10 badgers (1 from Vall d'Aran 2021; 9 from Cantabria 2023)

- periocular
- lips
- nose
- chin
- ears
- dorsum
- lumbar region
- abdomen
- forelimb
- hindlimb



for **16S and 18S rDNA genes**:

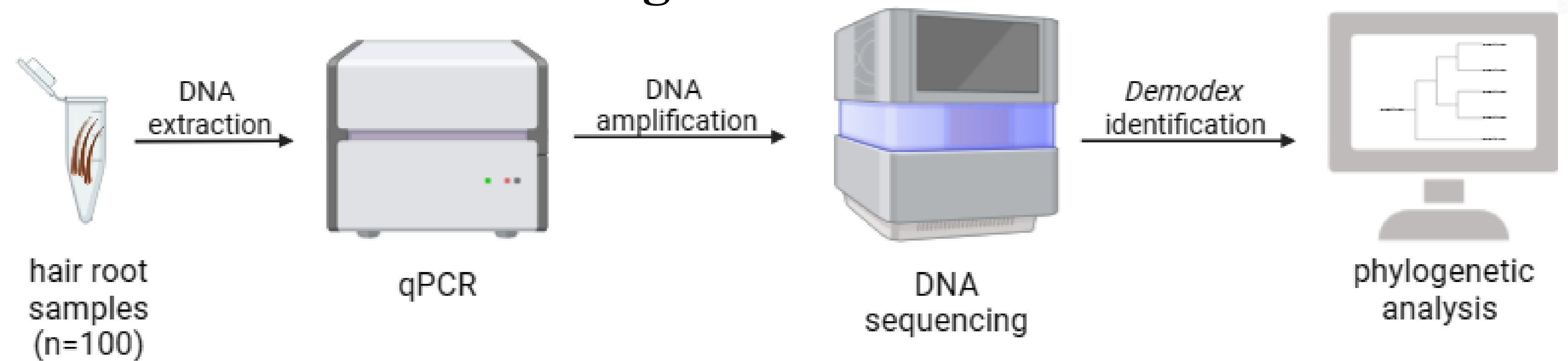


Fig. 1. Methodology scheme.

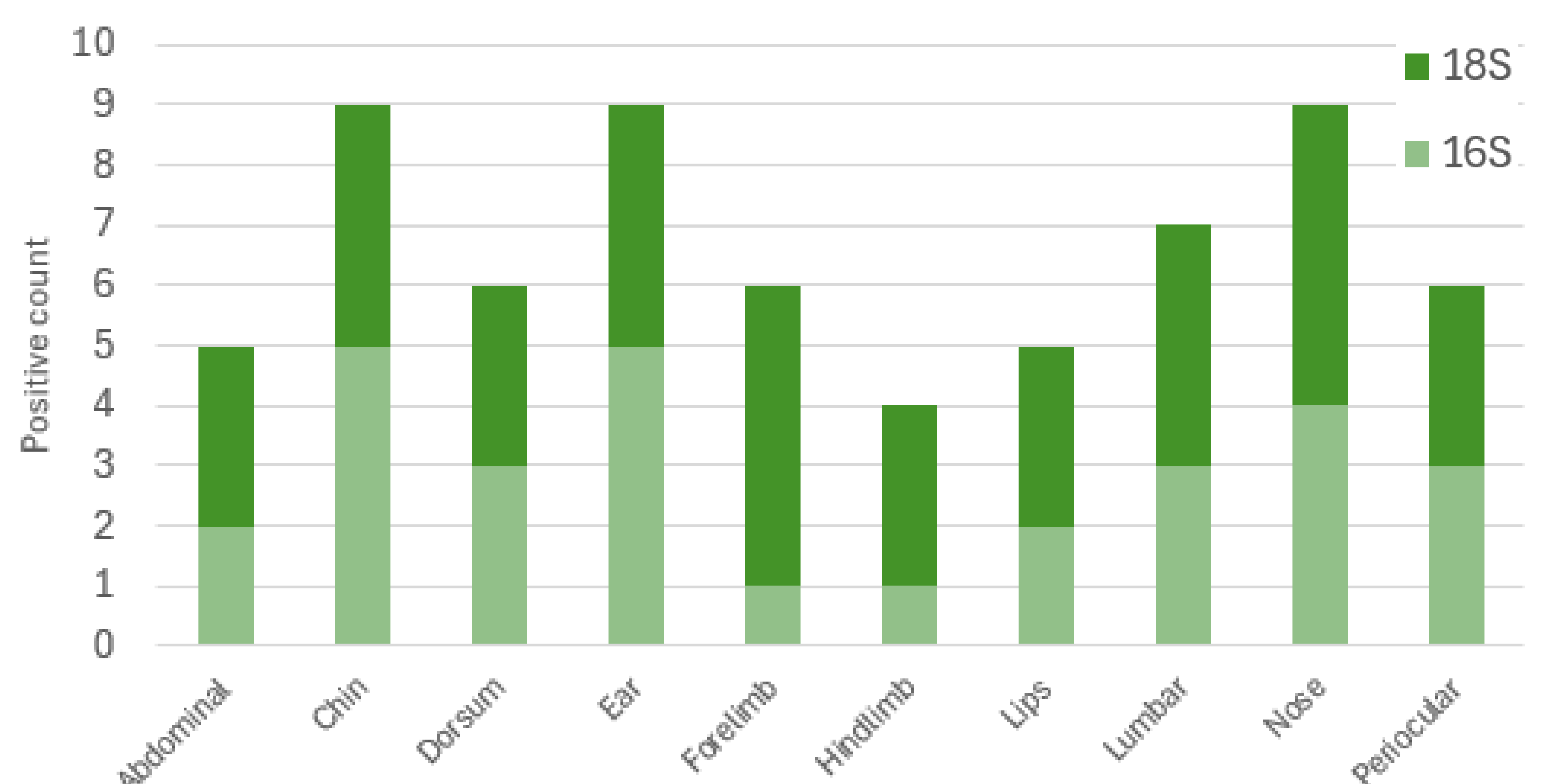


Fig. 2. Frequency of qPCR positives by gene and body area.

CONCLUSION

Further research is required but for now, it can be confirmed that the badger is another mammal that acts as a common host for the *Demodex* mite based on a **prevalence** estimation of this mite extremely **high**, 70%, being the facial area the predominant site of infestation.

Furthermore, a new hypothesis can be proposed for future investigation: at least **two species** of *Demodex* may be capable of living on the skin of the badger.