



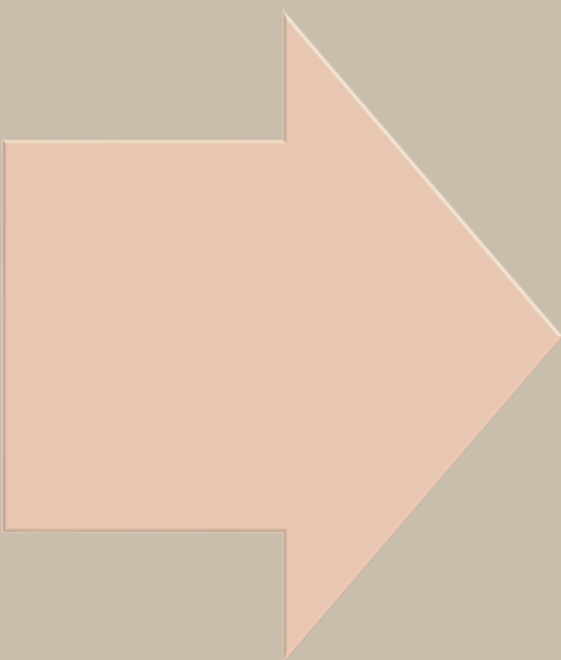
The role of cats in MRSA transmission: Investigating *Staphylococcus aureus* in feline stomatitis and its public health implications

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Background

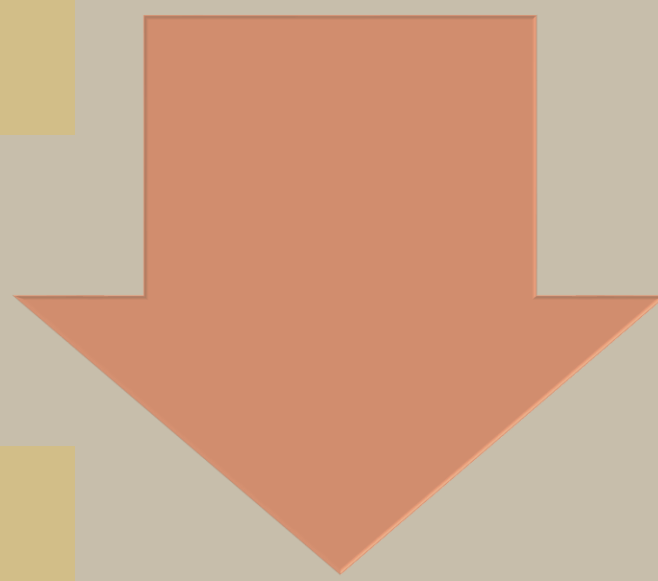
- ✓ *S. aureus* (particularly MRSA) is a major zoonotic pathogen.
- ✓ Cats can harbor MRSA, raising concerns about cross-species transmission.
- ✓ Oral conditions like feline stomatitis may create reservoirs for resistant bacteria.



Objectives

- ✓ Investigate the potential link between feline stomatitis and MRSA carriage.
- ✓ Explore oral microbiome alterations that facilitate MRSA colonization.
- ✓ Assess behavioral and environmental risk factors for transmission to humans.

Parameter	Domestic Cats	Feral Cats	Notes
<i>S. aureus</i> colonization	~19%	~8%	Higher indoor exposure
MRSA carriage	~10%	~1.4%	Linked to healthcare-associated infections
Resistance genes	Frequent	Rare	Suggests antibiotic selection pressure
Antibiotic resistance	~99%≥1 drug	—	12% multidrug resistance



Results/Discussion

- ✓ Cats with **gingivostomatitis** show **oral dysbiosis** with:
 - ✓ Enrichment of *Treponema*, *Porphyromonas*, and anaerobes.
 - ✓ Depletion of commensals → favorable environment for *S. aureus*.
- ✓ High antibiotic use in these cats likely promotes MRSA persistence.



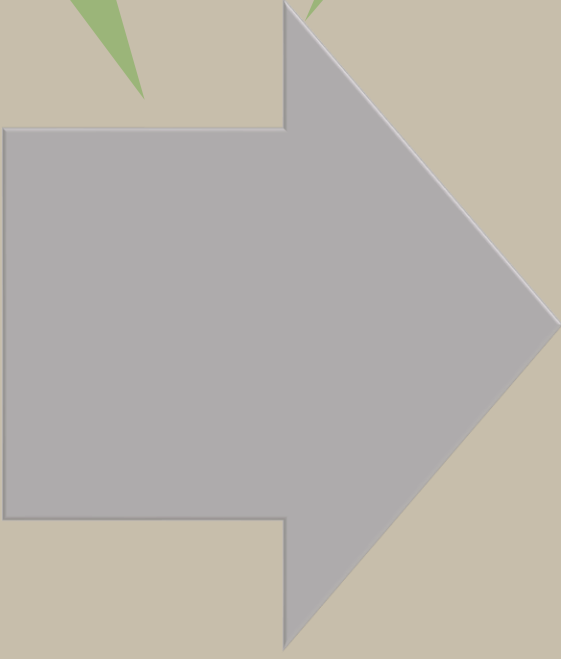
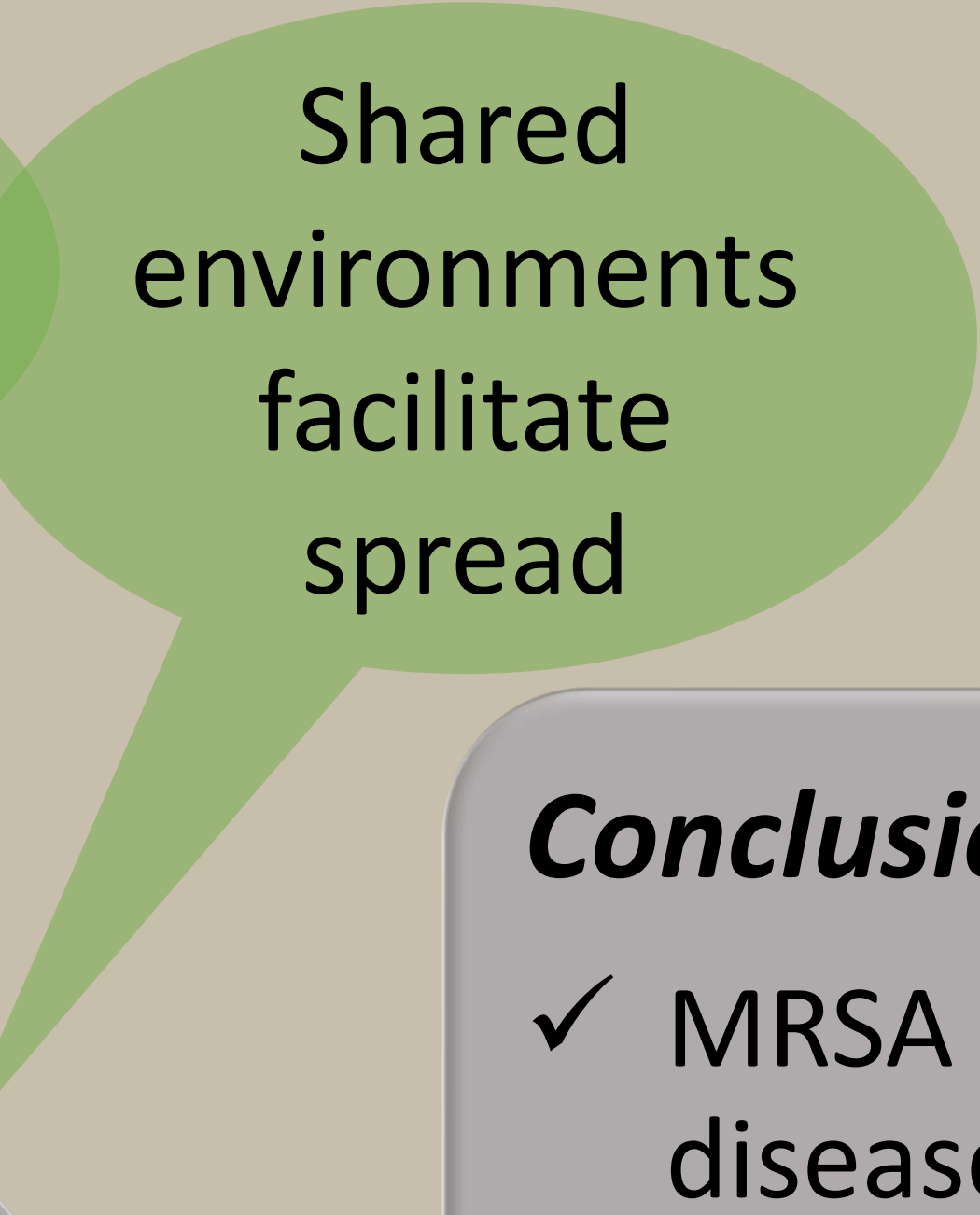
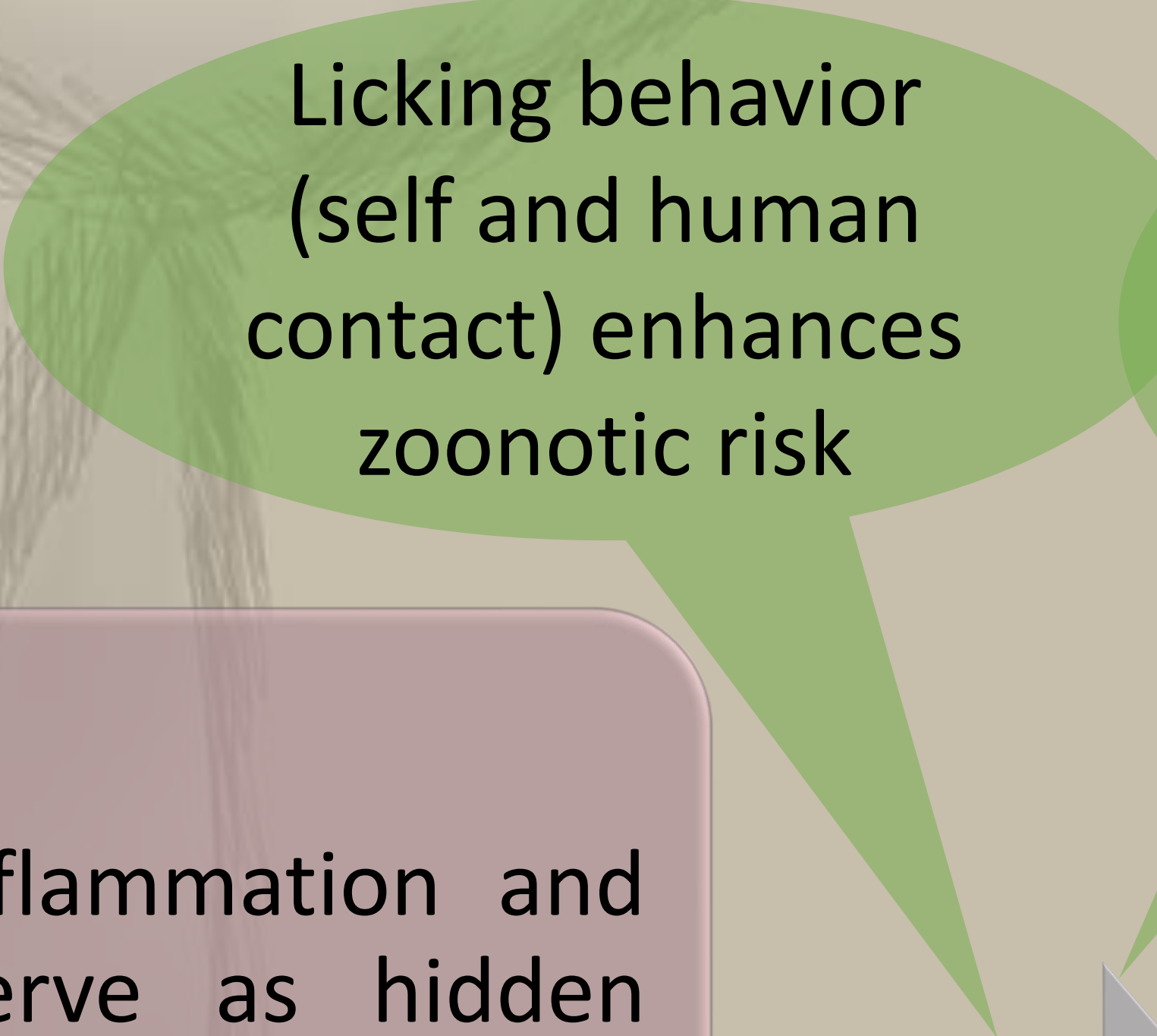
Methods Overview

- ✓ Literature synthesis from PubMed, Scopus, and Web of Science.
- ✓ Comparative analysis of MRSA prevalence in domestic vs. feral cats.
- ✓ Review of feline oral microbiome studies in stomatitis and periodontitis.



Public Health Implications

- ✓ Cats with chronic oral inflammation and antibiotic history may serve as hidden MRSA reservoirs.
- ✓ Emphasizes need for veterinary screening and owner awareness.
- ✓ Suggests integration of One Health approaches in MRSA surveillance.



Conclusions

- ✓ MRSA in cats, particularly those with oral disease, poses **non-negligible zoonotic risk**.
- ✓ Further studies should quantify MRSA prevalence in stomatitis cases.
- ✓ Cross-disciplinary strategies are essential to manage MRSA transmission chains.

