

# 'Hidden' marine microbial eukaryotic diversity

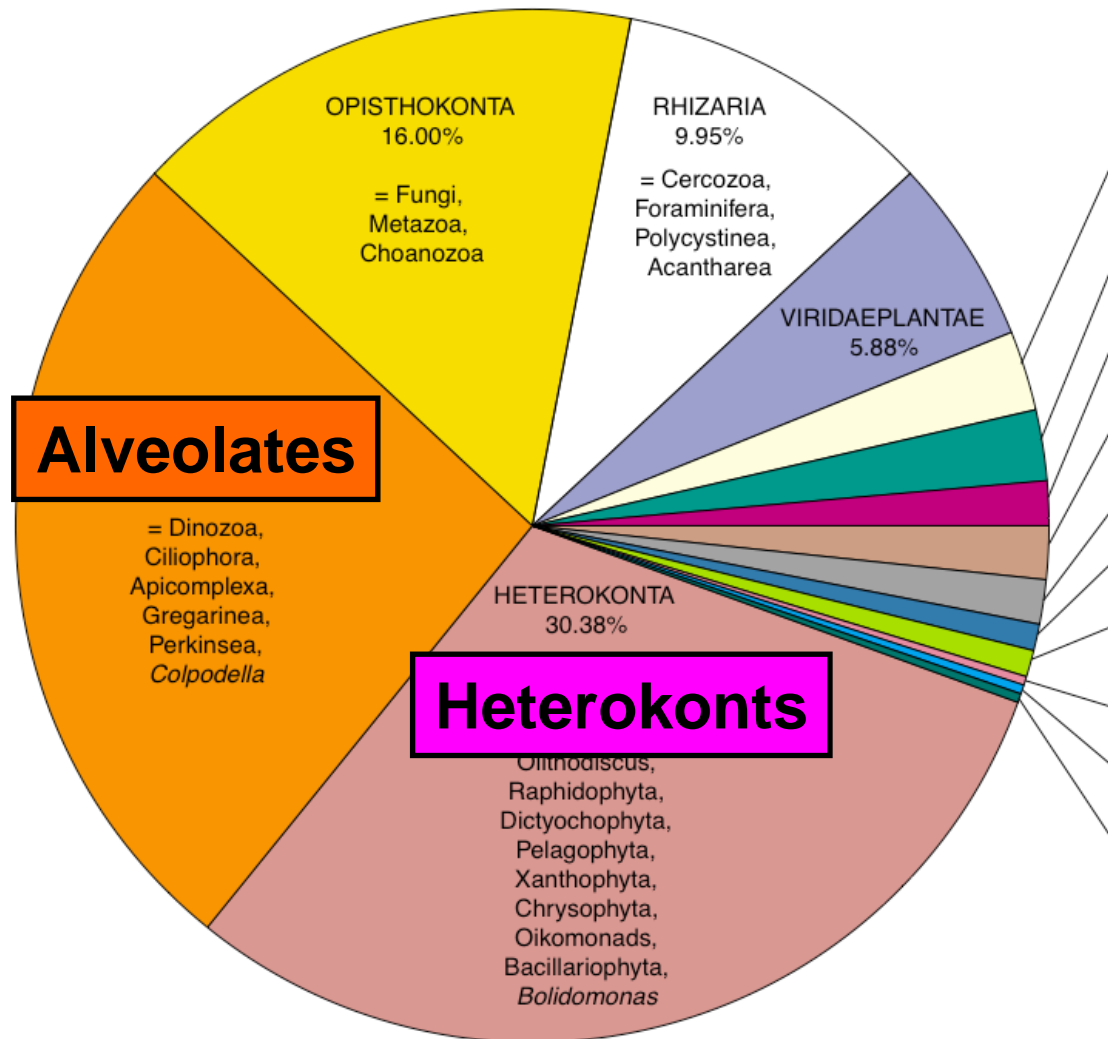
**David Bass**

**d.bass@nhm.ac.uk**

**Natural History Museum, London**



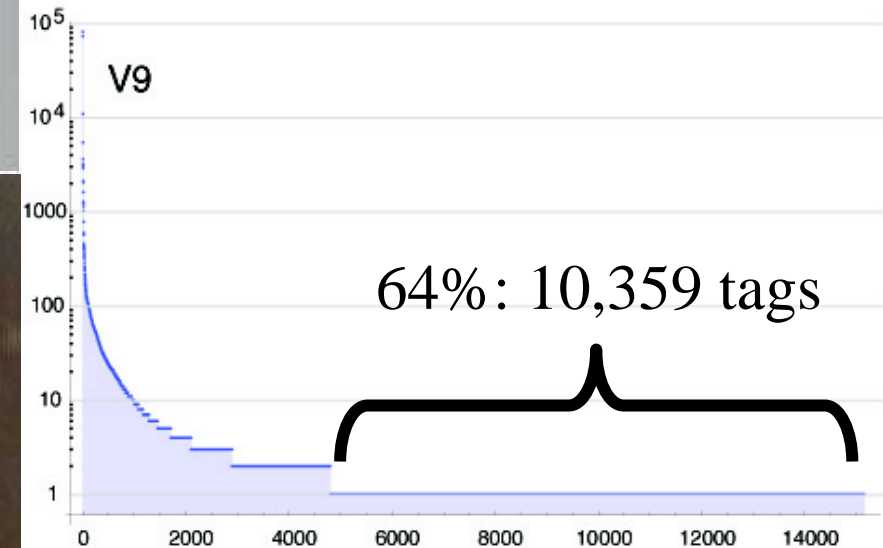
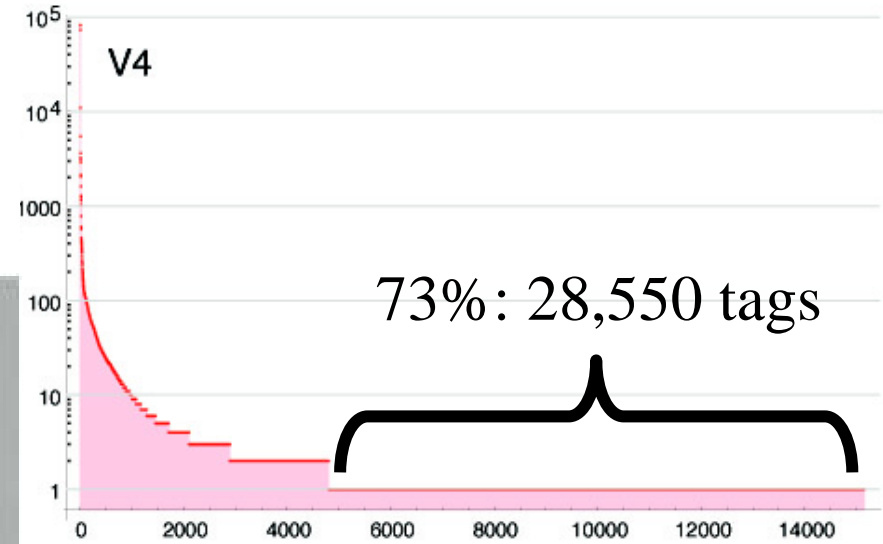
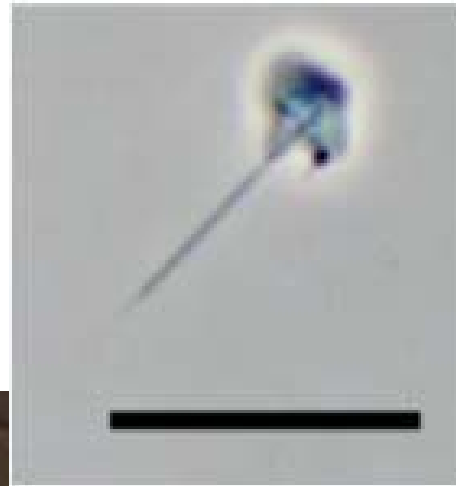
# Dominance of heterokonts and alveolates in clone libraries and 454 sequencing

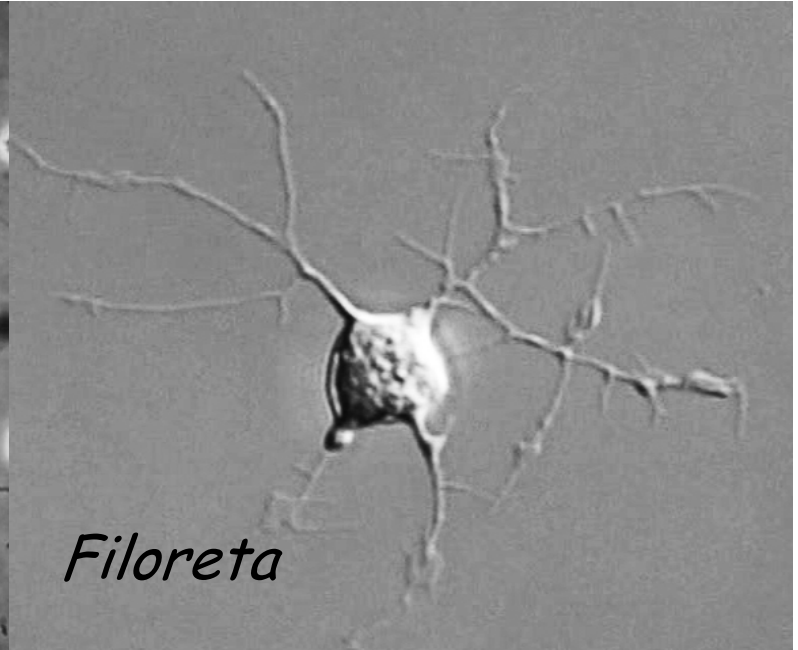
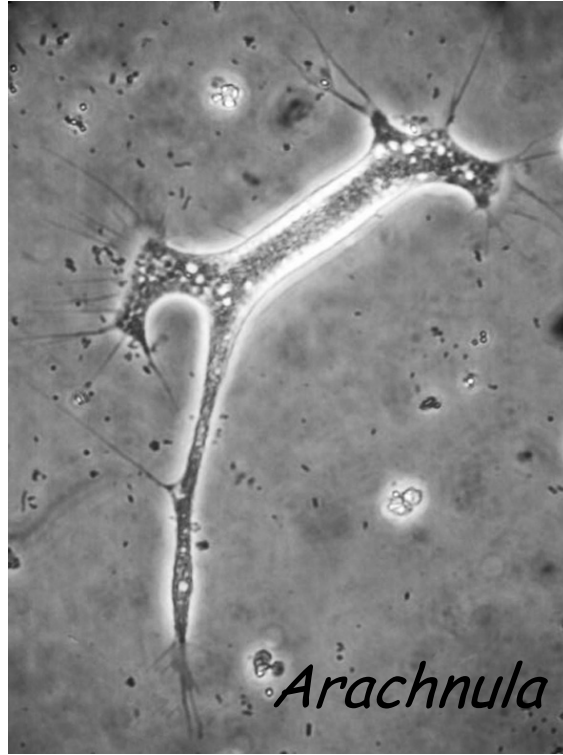
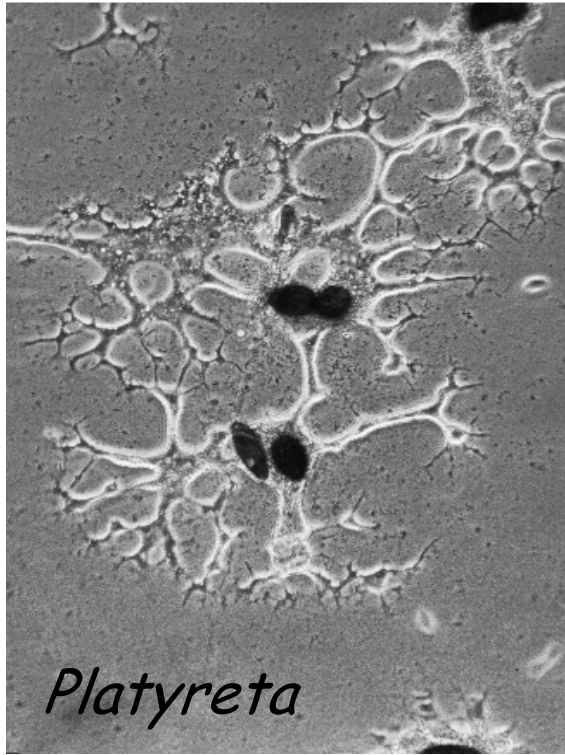


- Extraction biases
- Primer biases
- PCR effects
- Patchiness
- Resting diversity
- Others...

The 'rare biosphere' -  
very many very rare  
genotypes. What is their  
significance?

**APUSOZOA:**





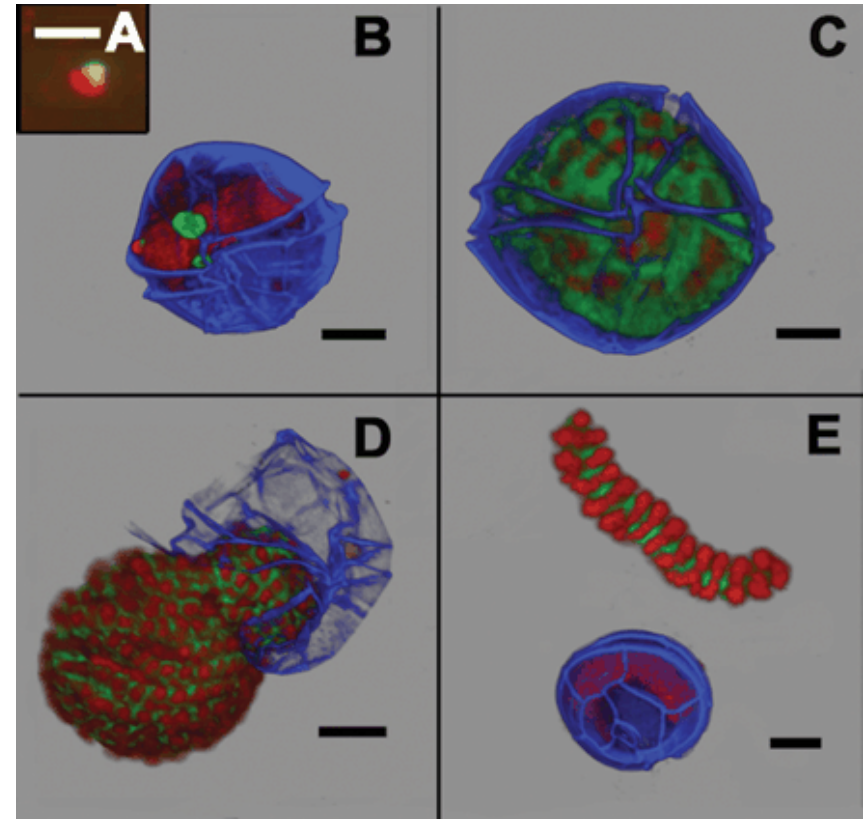
# ENDOMYXA



*Ascetosporea and phytomyxa (invertebrate and plant parasites)*

# Complementary and Synergistic Approaches

- FISH: parasites, cryptic forms
- Next Generation Sequencing
- Multiple primers
- Targeted primers
- Temporal sampling
- RNA-based approach
- Flow cytometry - cell sorting
- Group-specific expertise
- Morpho-scans
- Microcosm experiments
- Bioinformatics



Chambouvet et al. (2008) Science 322: 1254-7