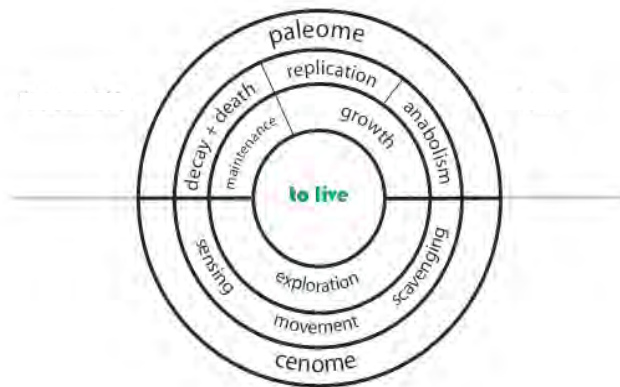# phyloprofile : co-evolution differs in different clades

the functional paleome is ubiquitous; the structural paleome is not

for example degrado-somes differ in firmicutes, gamma-proteobacteria and alpha-proteobacteria

nano-rnases: functional, not structural ubiquity

vector

bb_nrnc

ec_orn

complementation in vivo

nrnA (B. subtilis)

orn (E. coli)

Both

nrnC (B. birtlesii)

linking RNA, lipid and sulfur metabolism

sulfate adenylyltransferase:
cysN cysD
2.7.7.4

sulfate

ATP
H⁺

diphosphate

adenosine 5'-phosphosulfate

adenylylsulfate kinase: cysC
2.7.1.25

ATP

ADP
H⁺

phosphoadenosine-5'-phosphosulfate

a reduced thioredoxin

3'-phospho-
adenylylsulfate reductase: cysH
1.8.4.8

2 H⁺
an oxidized thioredoxin
adenosine 3',5'-bisphosphate

coenzyme A

4-phosphopantetheine

sulfite reductase: cysJ cysI
1.8.1.2

hydrogen sulfide

sulfite

3 H₂O
3 NADP⁺

3 NADPH
5 H⁺

Orn
NrnA
NrnB
NrnC

5'AMP