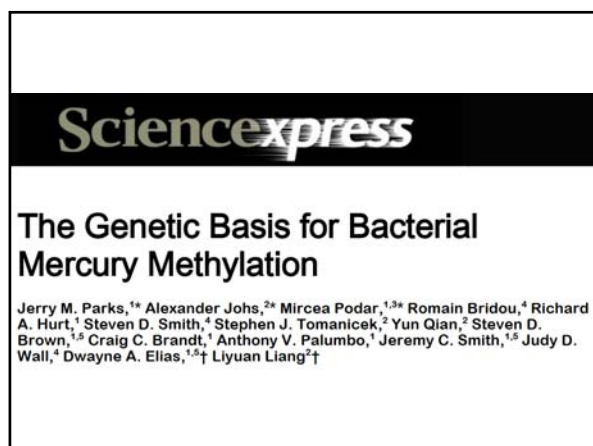
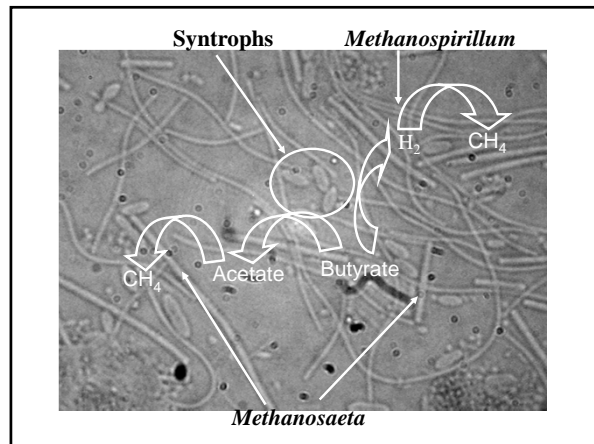
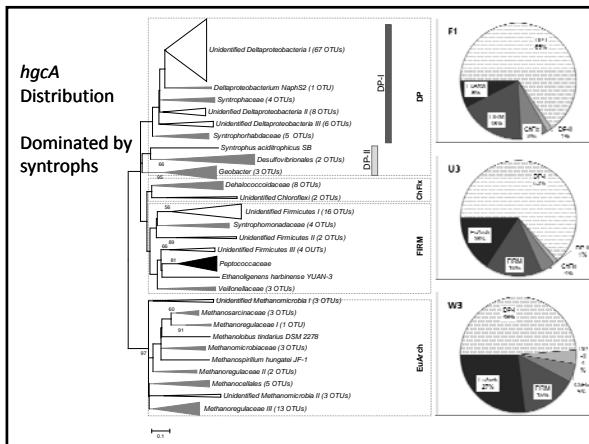
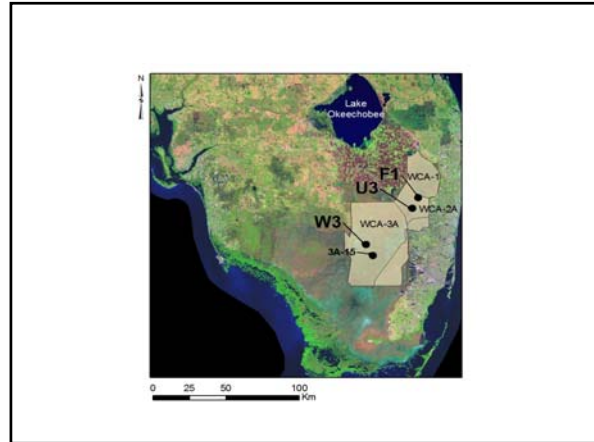
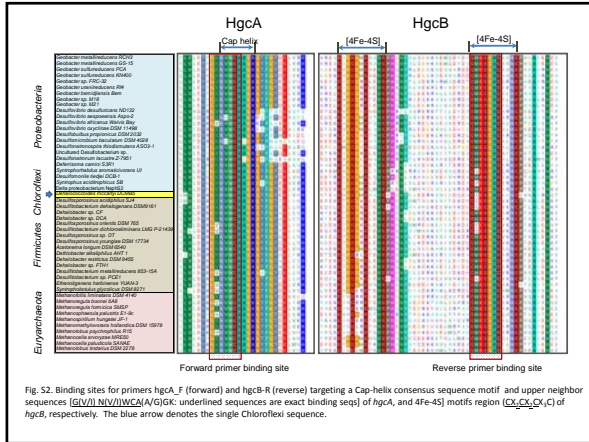


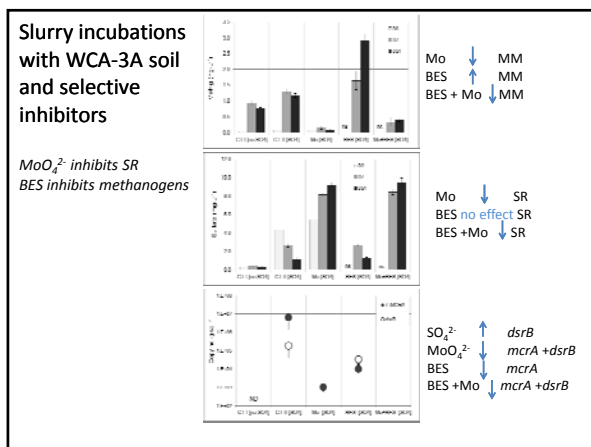
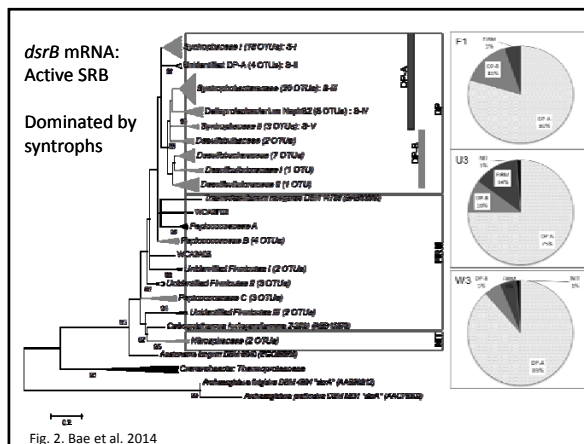
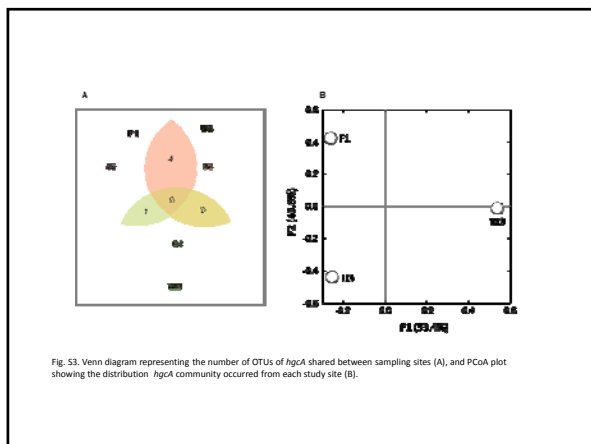


- Role of SRB known for many years
- What is known of ecology increasingly hinted at diverse metabolisms
- Methylation vs demethylation may occur simultaneously by different groups, or by same group under different TEAPs.



- Objectives**
- Develop and evaluate PCR system to specifically amplify *hgcA*
 - Screen soil samples from WCAs for phylogenetic distribution of *hgcA*
 - Impact of sulfate and selective inhibitors on MeHg⁺ concentrations in incubations





Conclusions

- Diverse groups of prokaryotes harbor *hgca*
- Appear to be dominated by deltaproteobacteria capable of syntrophy.
- Total methylation rates complicated by possible simultaneous methylation/demethylation.
- Iron reduction may play small but significant role.



Incubation Studies

Amendment	Concentration
Hg ²⁺	139 ng/L
SO ₄ ²⁻	4.5 mg/L
BES	50 mM
MoO ₄ ²⁻	20 mM
Soil	100 g wet
Site Water	900 ml