

Comparative methods

- To study relationship b/w two phenotypes
or b/w phenotype & environment

Felsenstein, 1985

Conventional
Statistical
methods

- Ordinary Regression
- Correlation
- Contingency table

Problems

Random errors in
X & Y traits that are
being compared is not
accounted for

→ assume bivariate normal
distribution

→ points drawn independently
but branching phylogeny
show non independence

Possible Solution

Independent Contrasts
assumes

Known
phylogenetic
topology with
Branch length

→ Brownian
motion of
trait evolution

↓
could be positive (+)
or negative (-)?
No

Difficulties

~~Reconstructing~~
phylogeny

↓
Gene freq. ↓ Mol. sequence ↓ Quantitative char.
↓
Char. being investigated
↓
limited info.