Molecular biology and ecology of flowering-time variants of *Capsella*

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**Historically, *Capsella* leaf shape variants are used to imply functional differences**

- We isolated 157 accessions (from 53 lines), from 34 arable fields across the UK.
- Site parameters and cultivation history were noted.
- Phenotypic traits were measured under controlled (glasshouse) conditions.
- Molecular genotyping of the accessions was carried out.
- The realtionship between site-of-origin, phenotypic and molecular parameters were tested.

**A novel robust high-throughput I-SSR genotyping method is developed**

- FAM-labelled anchored microsatellite primers generated PCR products.
- Single stranded PCR products were run on an ABI (Applied Biosystems), automated '3730 DNA-Analyser'.
- This demonstrated excellent QA between samples and runs.
- The number of bands per individual is conserved.

**Cluster analysis identified four distinct functional groups**

**Conclusions**

- Ecologically important traits (especially, time to flowering (TTF), are pleiotropic with other attributes.
- Strong statistical correlations exist between TTF-variants and site characteristics.
- We have proven the utility of a model approach to monitor environmental change.
- Future work should focus upon testing this model in blind-trials.

**References**


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