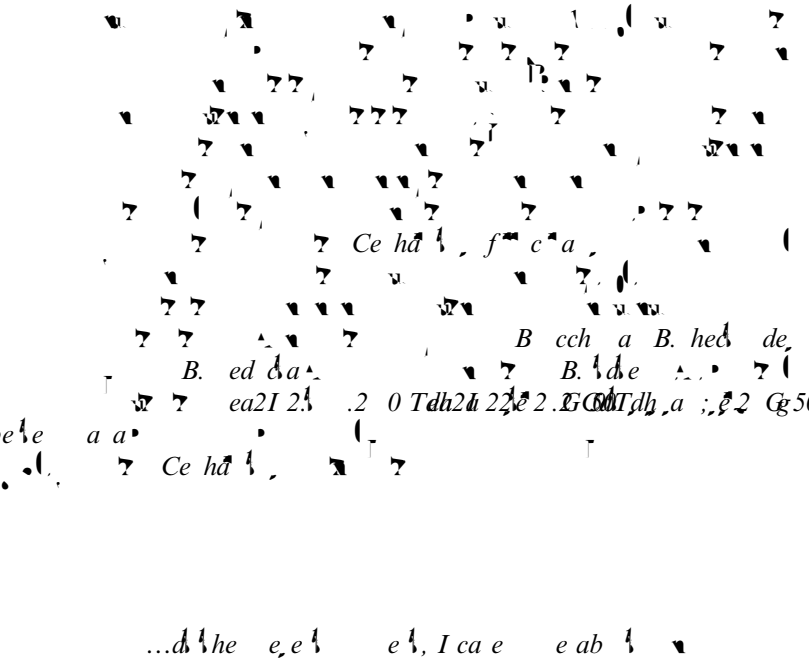
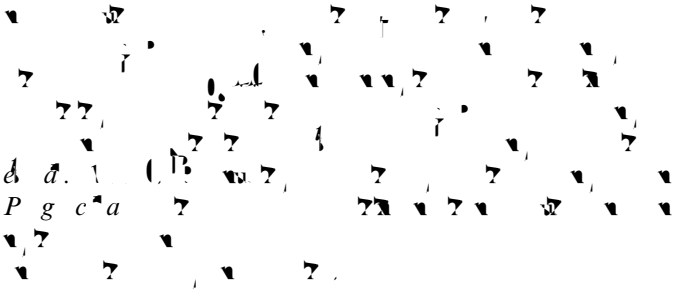
Journal of Experimental Botany, Vol. 60, No. 1, pp. 19–42, 2009

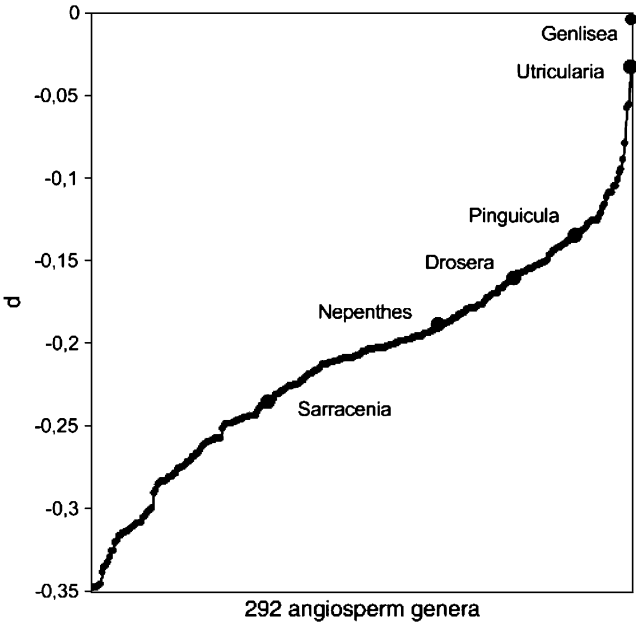
. . Positions of carnivorous plant families in the current overall angiosperm phylogeny (Stevens, 2007; relationships within the Lamiales from Müller *et al.*, 2006). Families that are exclusively carnivorous are set in bold and highlighted in green; families with only one (Dioncophyllaceae) or two (Bromeliaceae) carnivorous genera are set in italic and highlighted in yellow; and the family (Martyniaceae) with the possibly carnivorous *Ibicella lutea* v.Eselt. is set in italic and highlighted in blue. Representative traps of each genus are illustrated (drawings by Elizabeth Farnsworth), and the number of species in each genus is given in parentheses. The phylogenetic tree was drawn using the MrEnt software package (Zuccon and Zuccon, 2006); branch lengths are drawn only to emphasize the location of carnivorous families and otherwise are not meaningful (*i.e.,* do not signify time since divergence or any other metric of relatedness).





Genlisea and *Utricularia*:

Rates of genetic change and new hypotheses arising from carnivorous plant genomics



. Relative rates of gene substitution in carnivorous plant genera relative to the basal angiosperm (*Amborella*+Nymphaeales). Angiosperm taxa are arrayed on the *x*-axis from smallest to largest rates of *mat*K substitution rates. The relative substitution rate on the *y*-axis is calculated as the difference between *K*(*Genlisea*, outgroup)–*K*(other taxon, outgroup), where *K*(taxon, outgroup)=the maximum likelihood estimate of substitutions per site between the taxon and the outgroup (Müller, 2005). A rough estimate of the percentage difference in substitution rates between two carnivorous plant taxa can be found as

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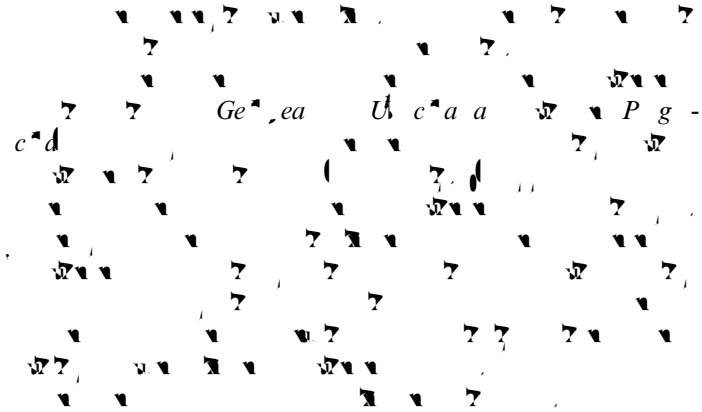
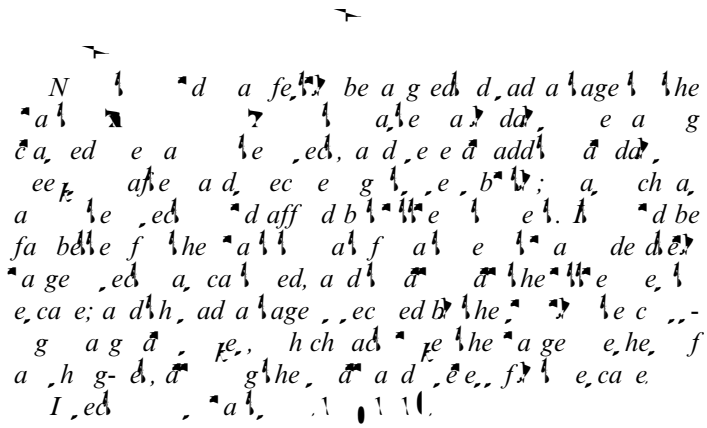
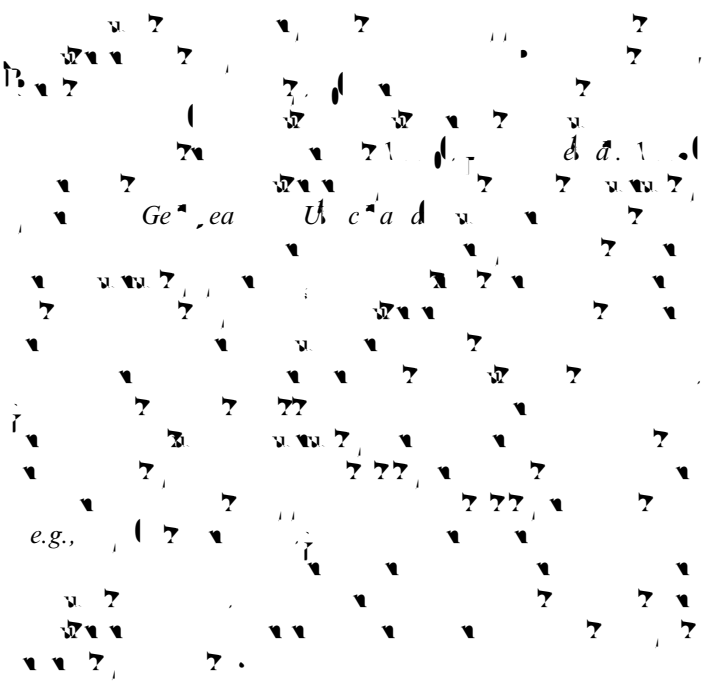
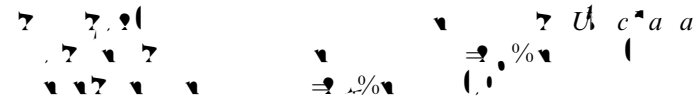






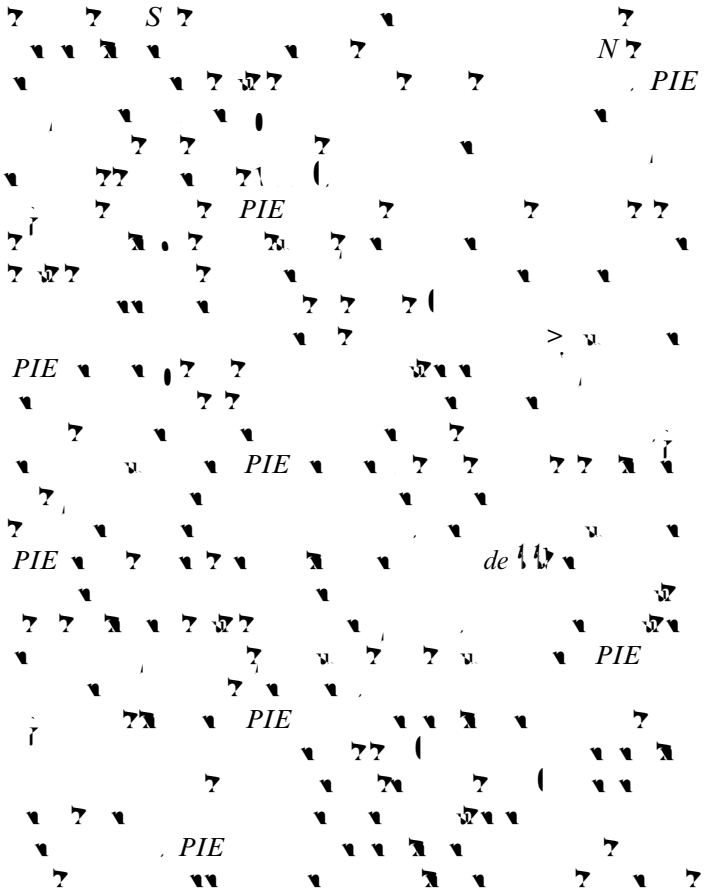


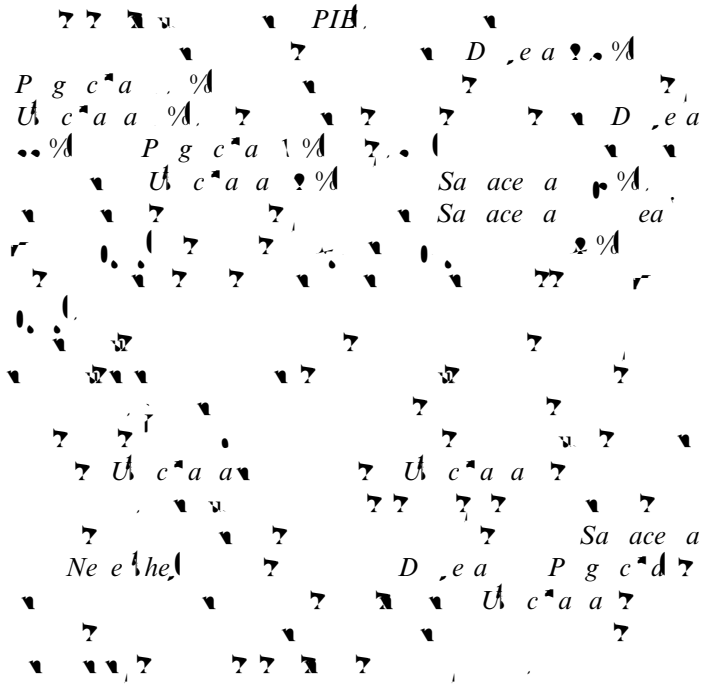
Do different carnivorous plant genera specialize on particular prey?

Methods of data analysis:

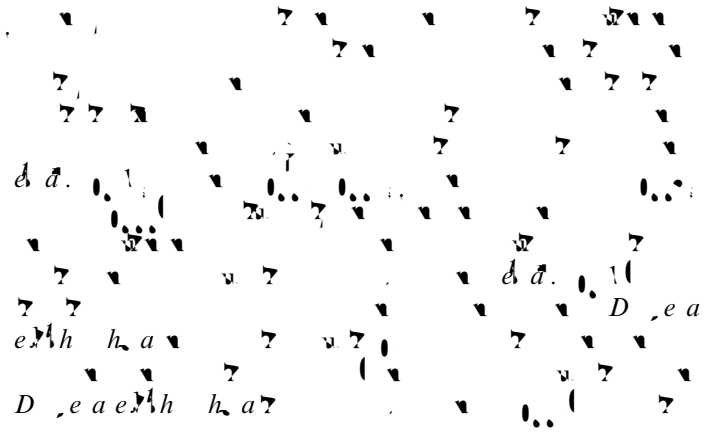
PIE.

$$PIE = \frac{N}{N-1} \times \left(1.0 - \sum_{i=1}^{S} \left(\quad\right)^{2}\right)$$





Are they really specialists? Comparisons of captured prey and available prey



Methods of data analysis:

$$J = \frac{a}{a + b + c}$$

Results:

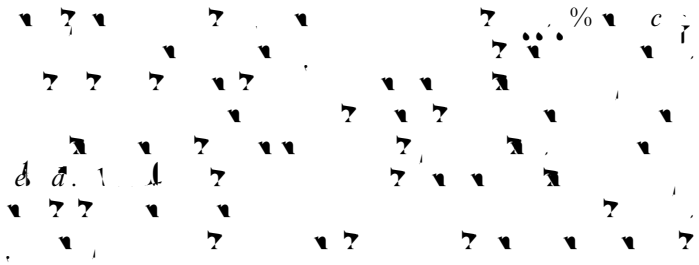
Sa ace-

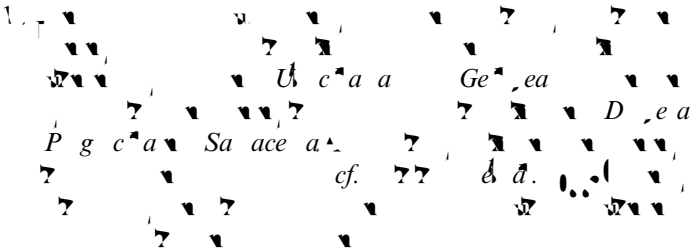
Niche overlap among co-occurring carnivorous plants

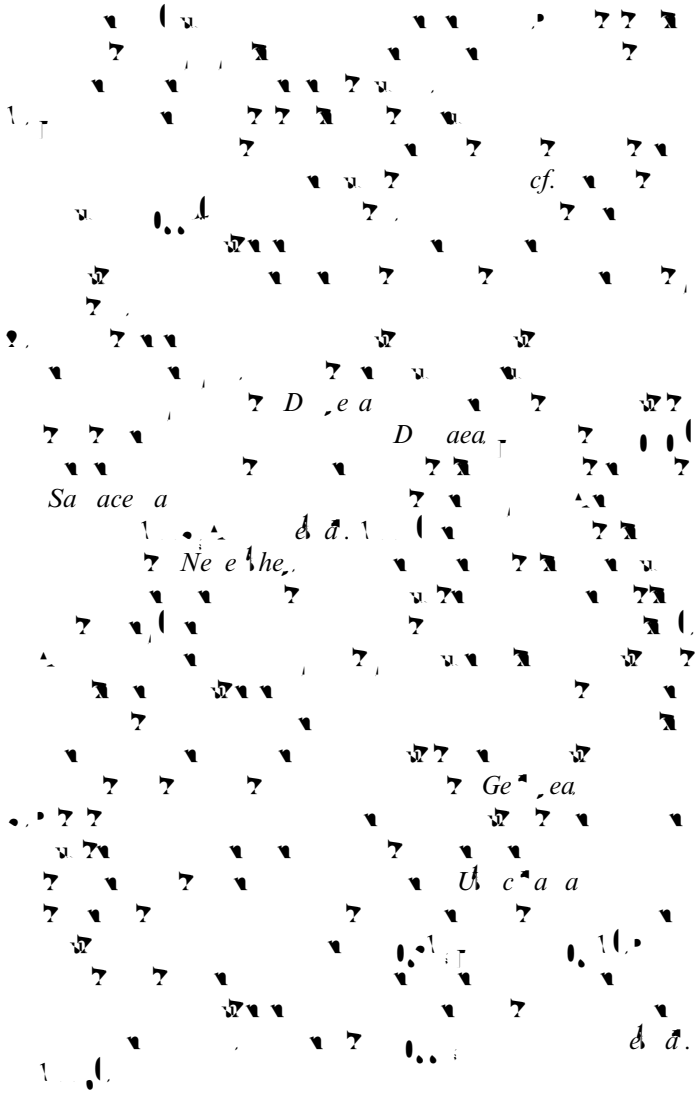
Methods of data analysis:

$$O_{} = \frac{\sum_{=}}{\sqrt{\sum_{=}( )( )}}$$

Results:







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