

Online supplement to

**Testing the aminostratigraphy of fluvial archives:  
the evidence from intra-crystalline proteins within freshwater shells**

by

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M.J. Collins**

This online supplement includes data and detailed analysis results in support of the arguments in the main text. It includes six supplementary Figures, together with data and site information as a Microsoft Excel spreadsheet.

The spreadsheet, provided as a separate file, contains five worksheets, as follows:

Worksheet 1: Bleached amino acid data

Worksheet 2: Site information

Worksheet 3: Statistics: Thames sites

Worksheet 4: Statistics: Species effect

Worksheet 5: Unbleached amino acid data

Abbreviations and other notations used in the spreadsheet and supplementary Figures and their captions are explained in the main text. References cited in the spreadsheet, for details of study sites, are listed below.

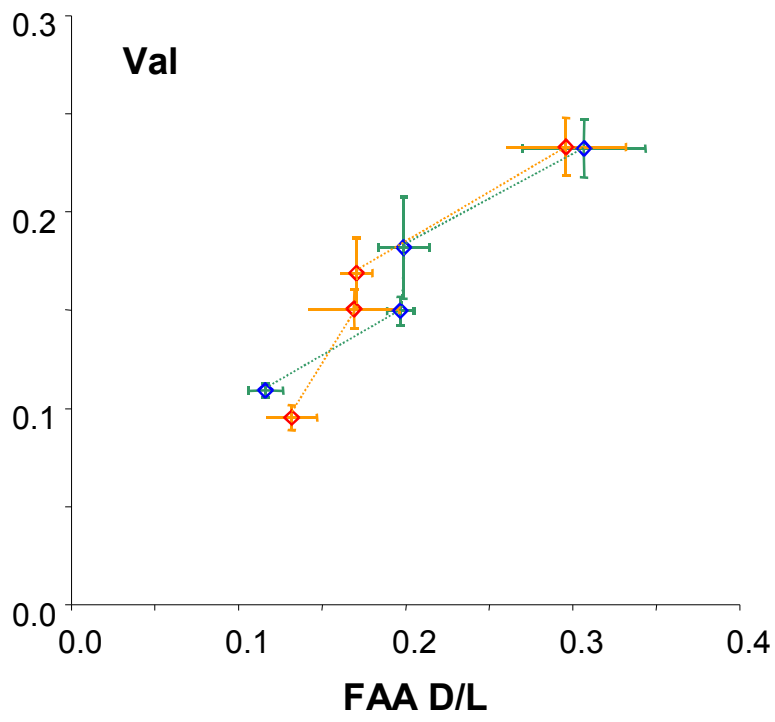
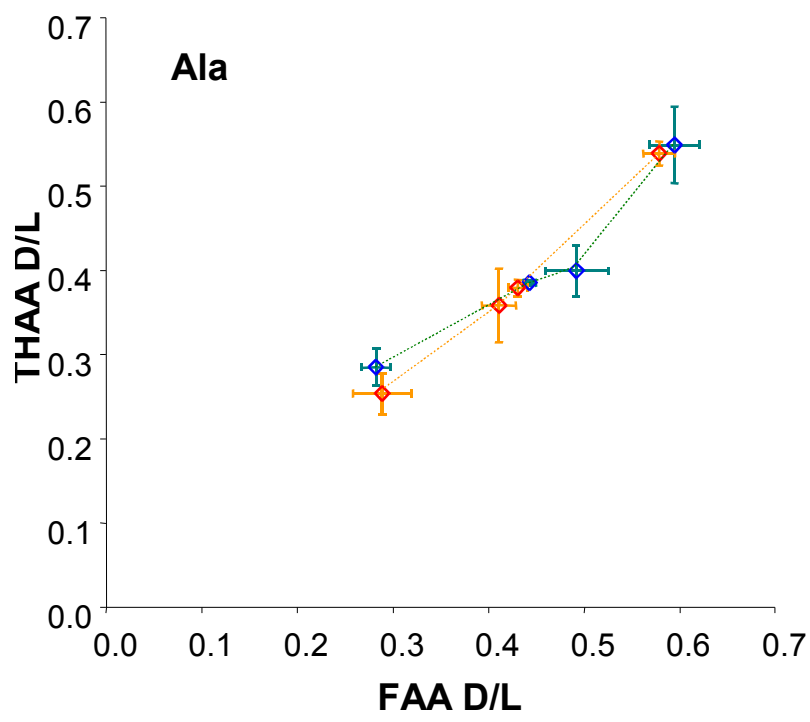
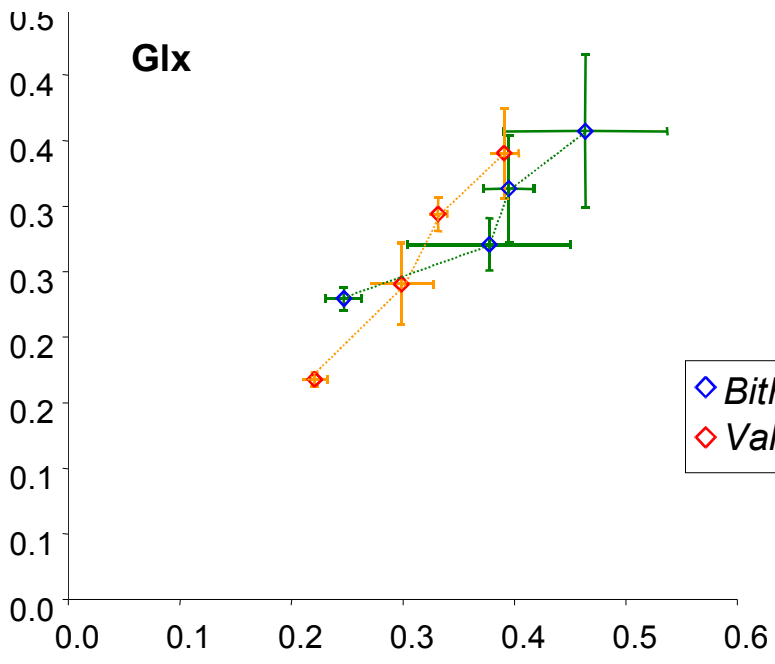
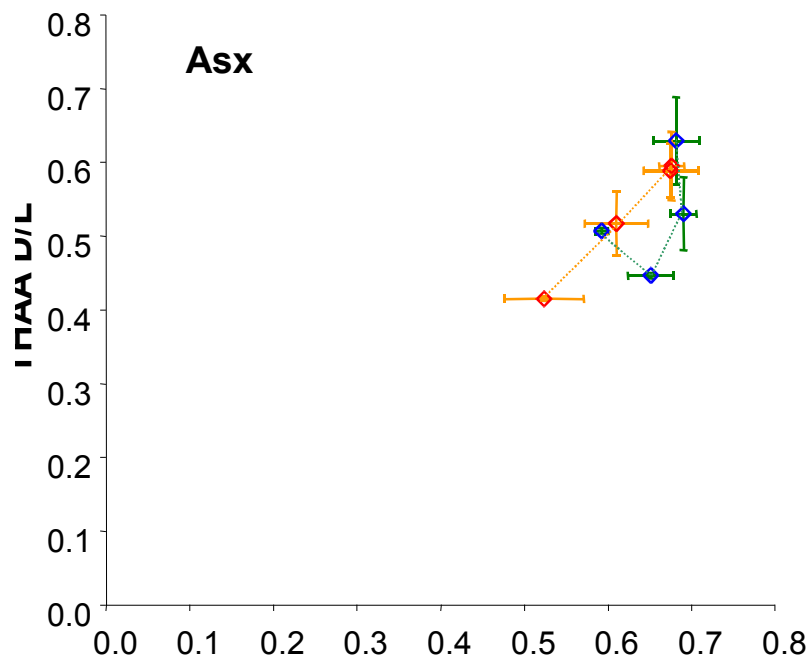
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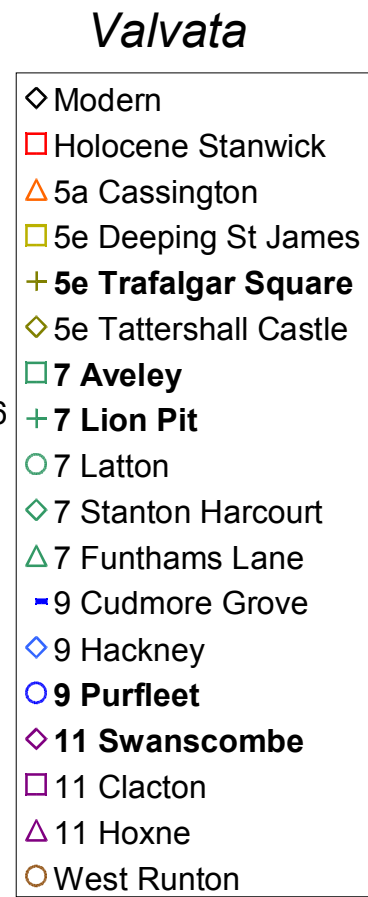
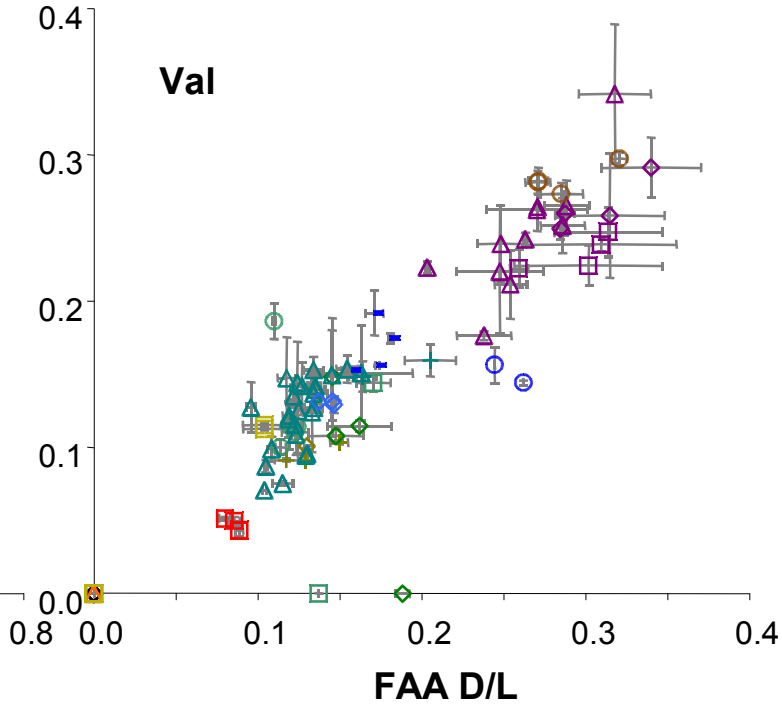
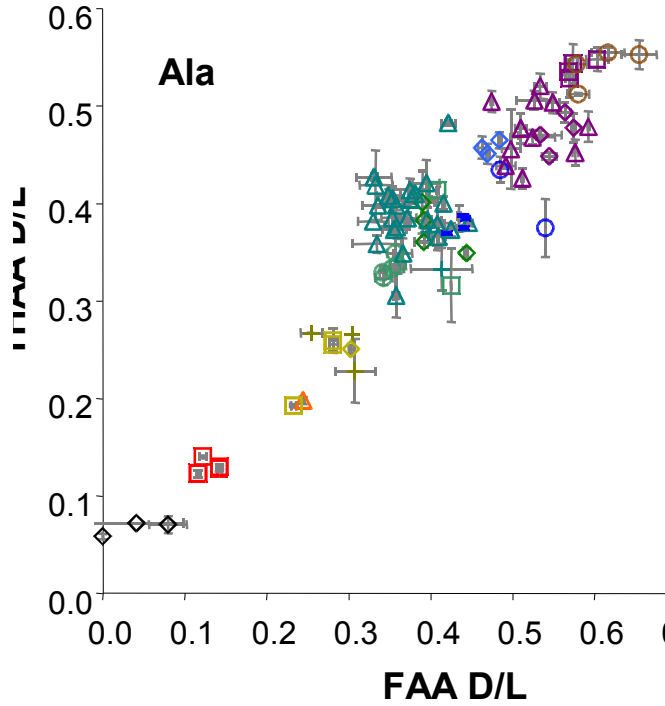
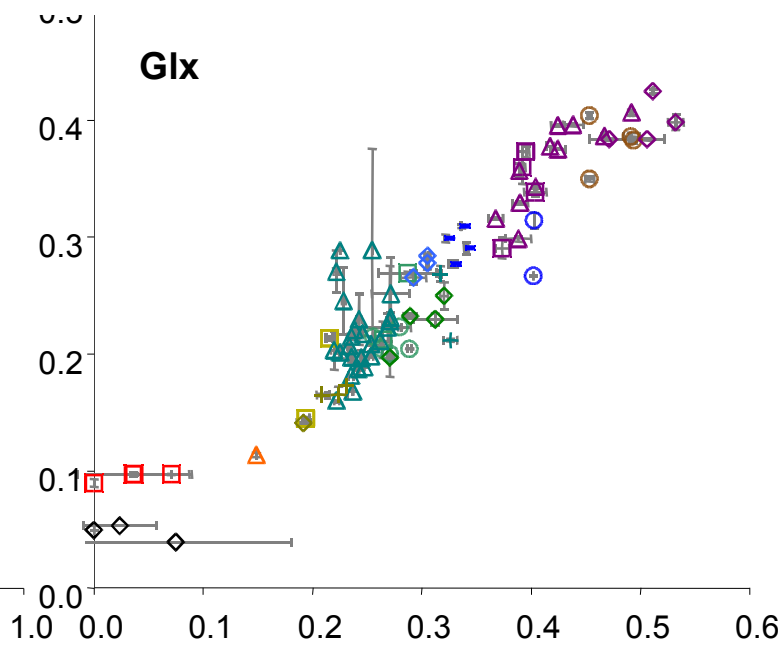
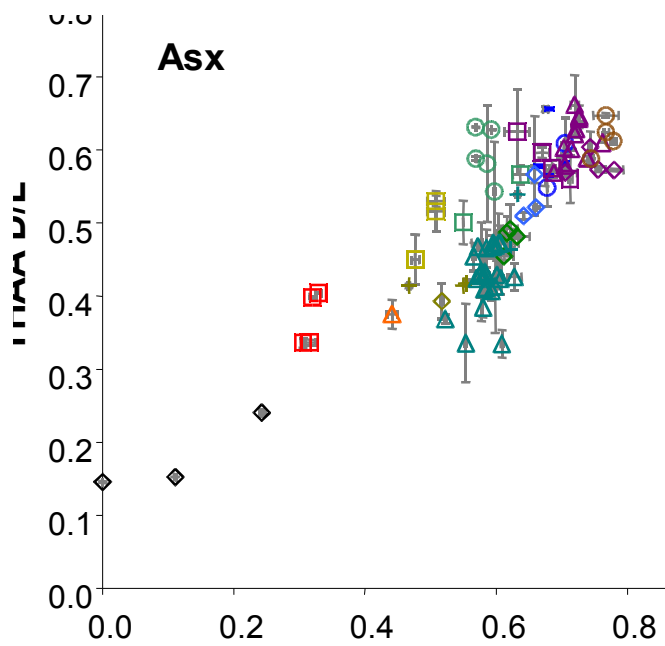
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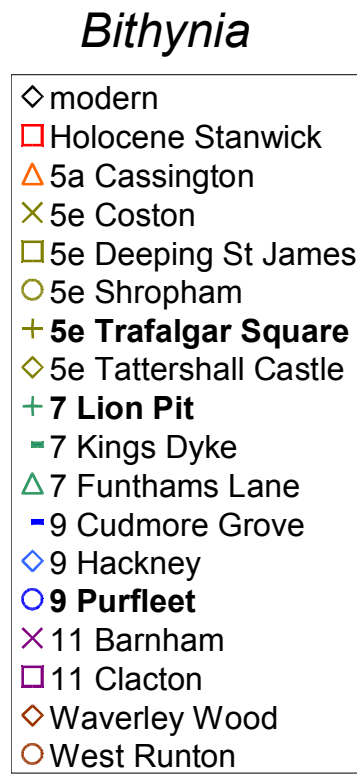
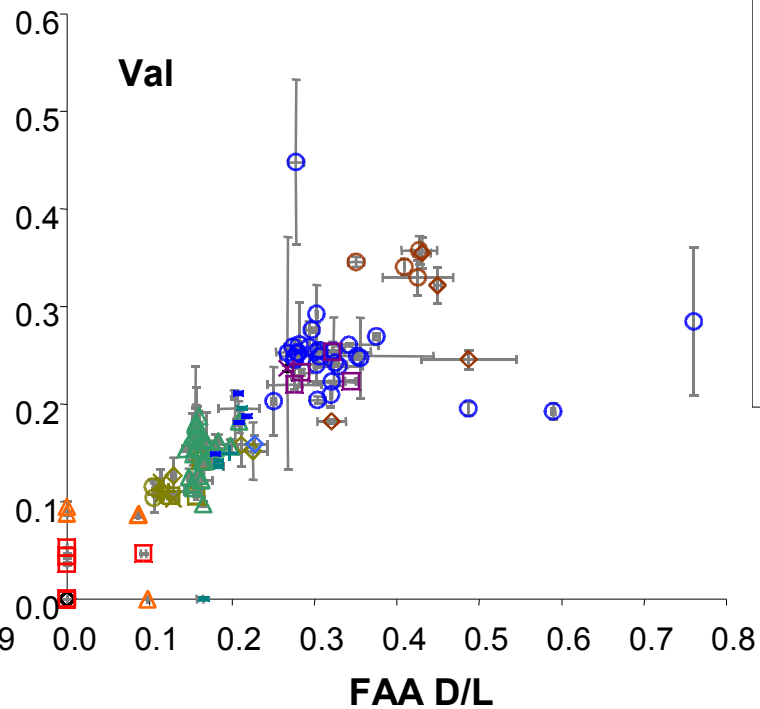
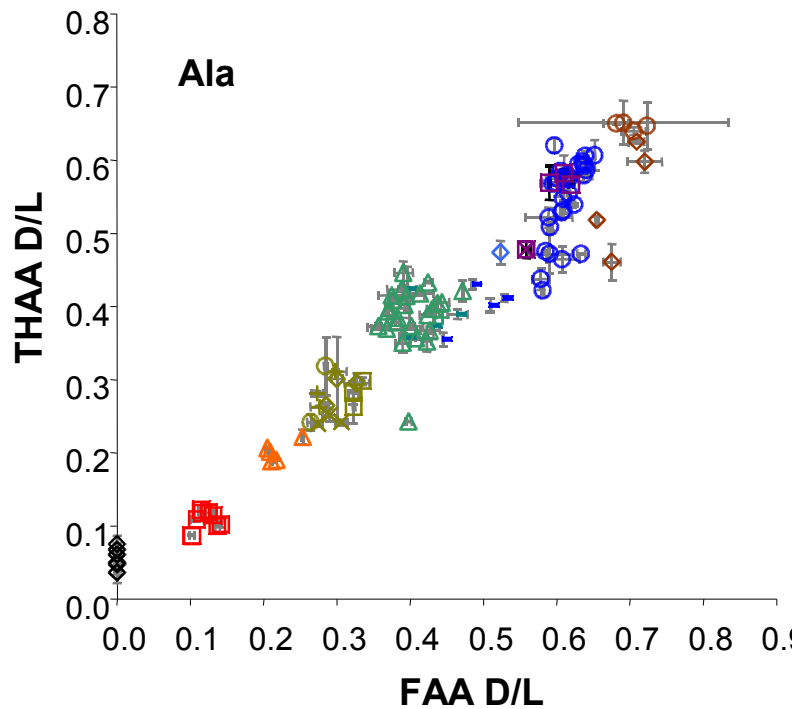
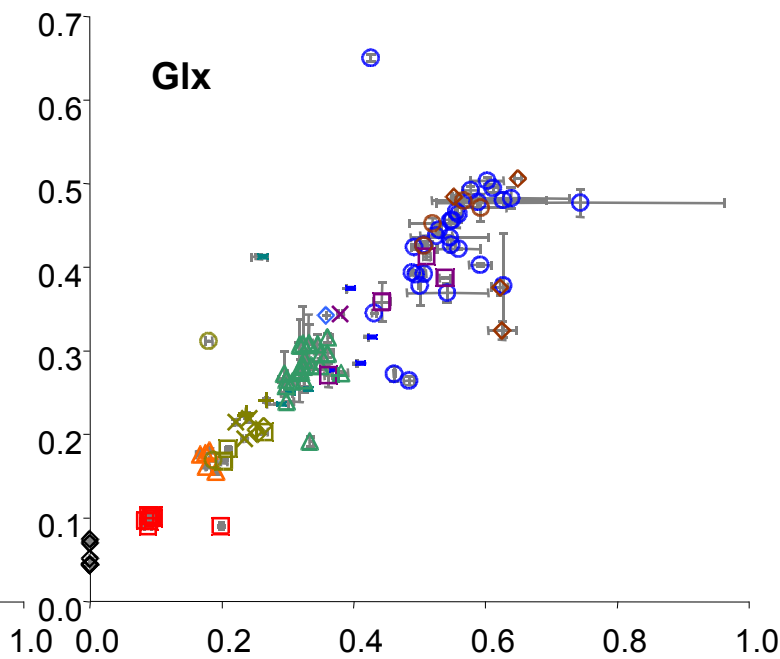
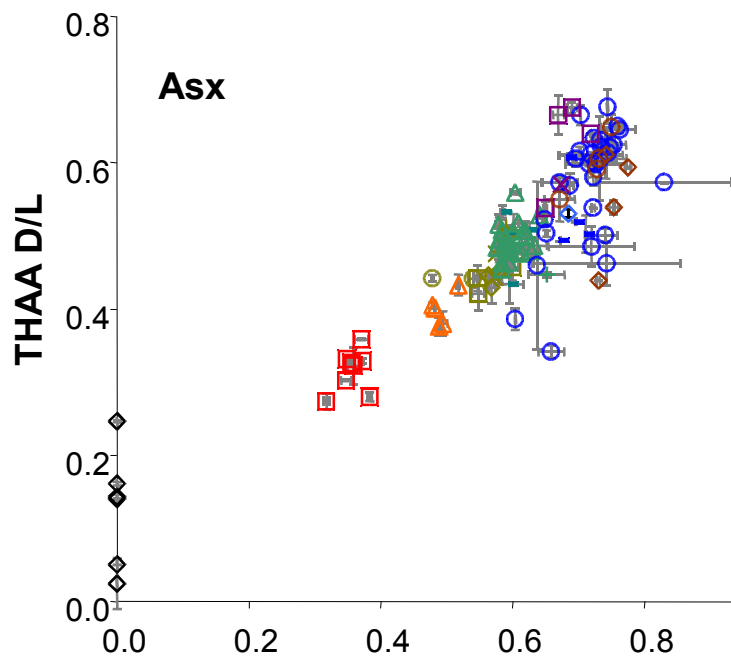
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**Figure S1 (previous page):** FAA vs THAA for Asx, Glx, Ala and Val D/L in the bleached (intra-crystalline) fraction of *Bithynia tentaculata* and *Valvata piscinalis* shells from Trafalgar Square, Lion Pit / Aveley, Cudmore Grove and Clacton, with dotted lines joining the sites in order of age. Error bars represent one standard deviation about the mean for multiple samples. There are significant species differences in protein decomposition patterns, resulting in the need for species-specific aminostratigraphic frameworks.

**Figure S2 (following page):** FAA vs THAA for Asx, Glx, Ala and Val in the bleached (intra-crystalline) fraction of *Valvata piscinalis*. Error bars represent one standard deviation about the mean for the duplicate analyses.

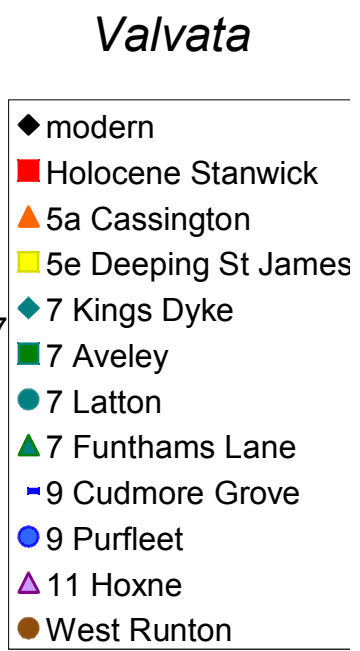
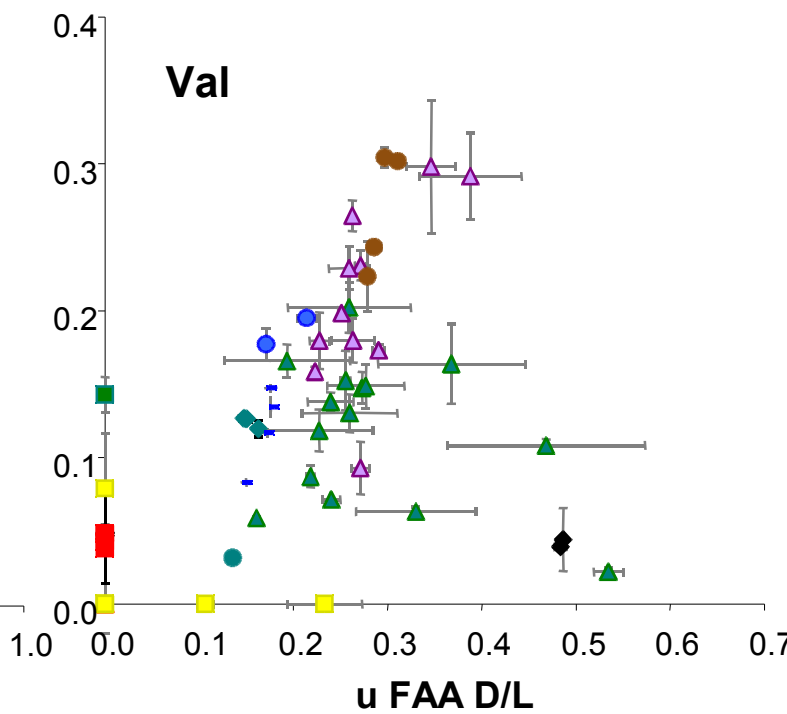
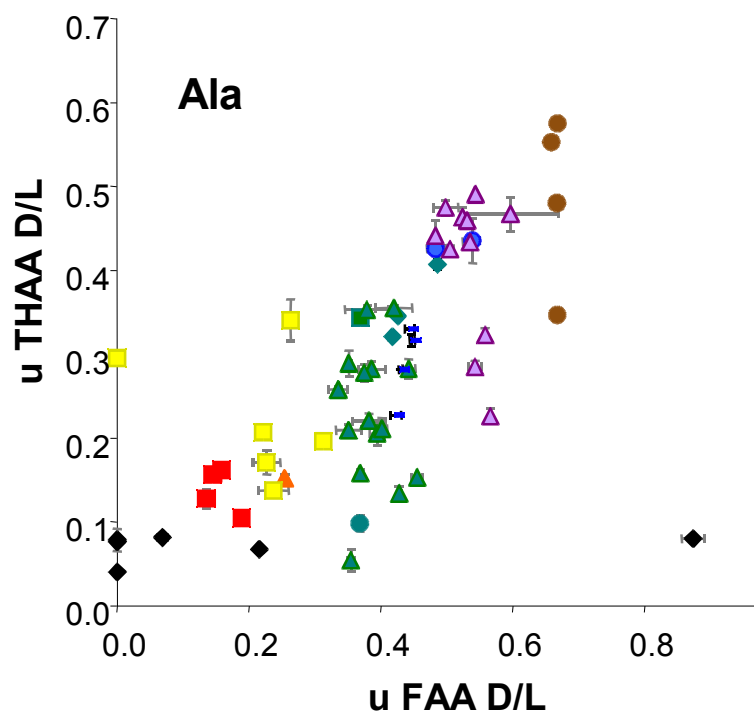
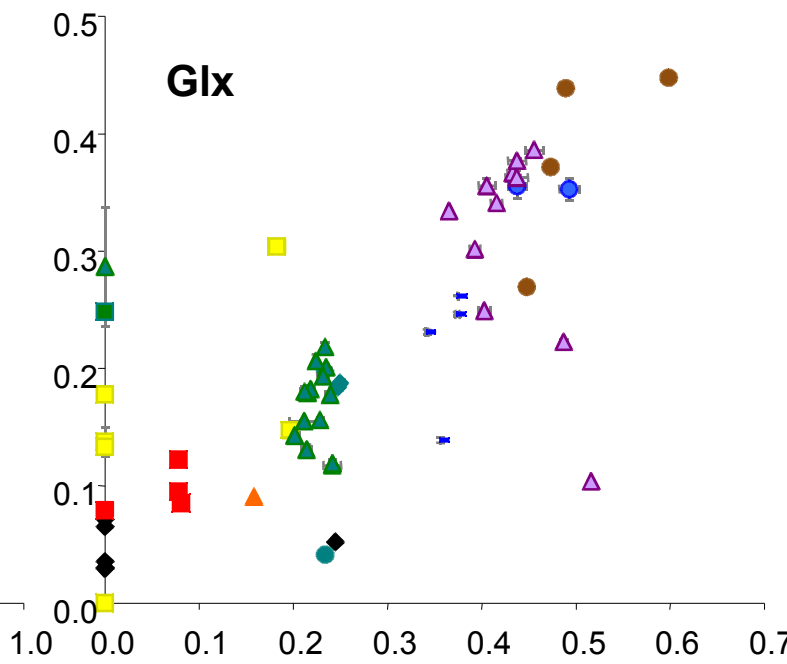
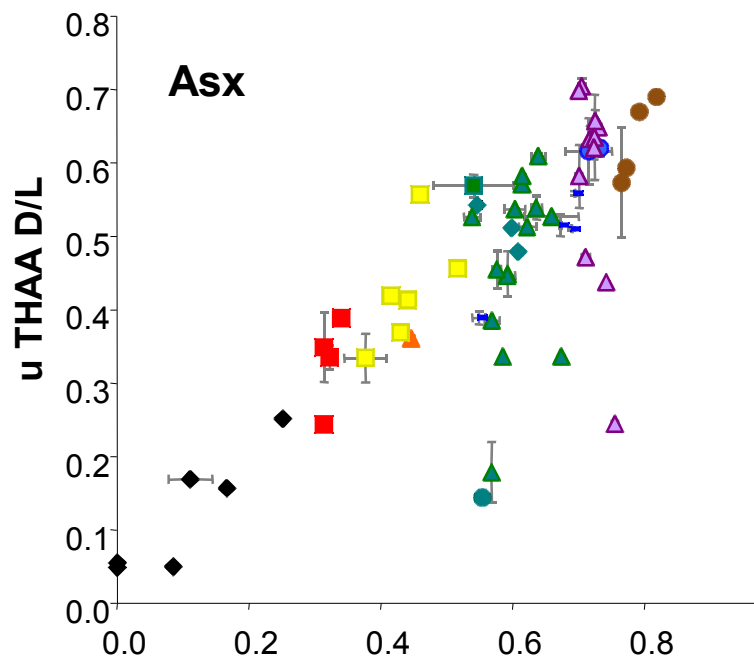


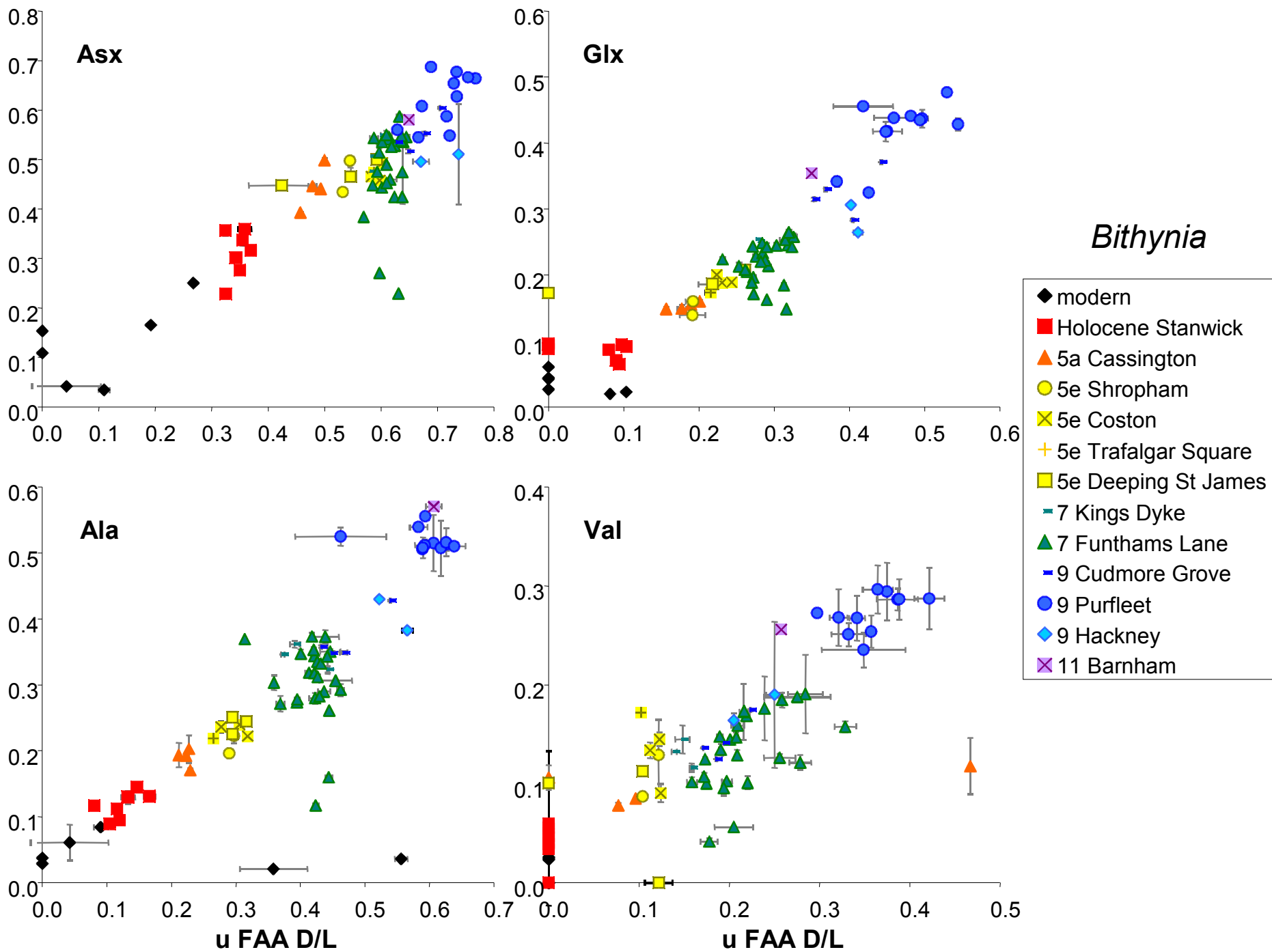




**Figure S3 (previous page):** FAA vs THAA for Asx, Glx, Ala and Val in the bleached (intra-crystalline) fraction of *Bithynia tentaculata* shell. Error bars represent one standard deviation about the mean for the duplicate analyses.

**Figure S4 (following page):** THAA vs FAA for Asx, Glx, Ala and Val in the unbleached (matrix and intra-crystalline) fraction of *Valvata piscinalis*. Error bars represent one standard deviation about the mean for the duplicate analyses.





**Figure S5 (previous page):** THAA vs FAA for Asx, Glx, Ala and Val in the unbleached (matrix and intra-crystalline) fraction of *Bithynia tentaculata* shell. Error bars represent one standard deviation about the mean for the duplicate analyses.

**Figure S6 (following page):** THAA vs FAA for Asx, Glx, Ala and Val in the unbleached (matrix and intra-crystalline) fraction of *Corbicula fluminalis* shell.

