Cultural Evolution in the Age of Athens: Drift and Selection in Greek Figure-Painted Pottery

Peter M. Schauer
UCL

2008

Volume 2 of 2

List of figures

Figures Chapter 2.
2.1 Mean values of te and tf for different values on N and mu. - 253
2.2 Mean |tf-te| values for different values on N and mu. - 253
2.3 Mean r-squared values for different values on N and mu. - 253

Figures Chapter 4.1 Cups.
4.1.1 Sample size over time. - 254
4.1.2 Motifs over time. - 254
4.1.3 New motifs over time. - 254
4.1.4 Mutation over time. - 254
4.1.5 Drift and mutation over time, black-figure. - 255
4.1.6 Drift and mutation over time, red-figure. - 255
4.1.7 Drift and mutation over time, black-figure and red-figure. - 255
4.1.8 Estimates of theta over time, black-figure. - 256
4.1.9 Estimates of theta over time, red-figure. - 256
4.1.10 Estimates of theta over time, black-figure and red-figure. - 256
4.1.11 |tf-te| comparison, model and data. - 257
4.1.12 R squared values over time. - 257
4.1.13 R squared comparison, model and data. - 257
4.1.14 Power laws by date, black-figure cups. - 258
4.1.15 Power laws by date, red-figure cups. - 259
4.1.16 Power laws by date, black-figure and red-figure cups. - 260

Figures Chapter 4.2 Skyphos.
4.2.1 Sample size over time. - 261
4.2.2 Motifs over time. - 261
4.2.3 New motifs over time. - 261
4.2.4 Mutation over time. - 261
4.2.5 Drift and mutation over time, black-figure. - 262
4.2.6 Drift and mutation over time, red-figure. - 262
4.2.7 Drift and mutation over time, black-figure and red-figure. - 262
4.2.8 Estimates of theta over time, black-figure. - 263
4.2.9 Estimates of theta over time, red-figure. - 263
4.2.10 Estimates of theta over time, black-figure and red-figure. - 263
4.2.11 |tf-te| comparison, model and data. - 264
4.2.12 R squared values over time. - 264
4.2.13 R squared comparison, model and data. - 264
4.2.14 Power laws by date, black-figure skyphos. - 265
4.2.15 Power laws by date, red-figure skyphos. - 266
4.2.16 Power laws by date, black-figure and red-figure skyphos. - 267

Figures Chapter 4.3 Oinochoe.
4.3.1 Sample size over time. - 268
4.3.2 Motifs over time. - 268
4.3.3 New motifs over time. - 268
4.3.4 Mutation over time. - 268
4.3.5 Drift and mutation over time, black-figure. - 269
4.3.6 Drift and mutation over time, red-figure. - 269
4.3.7 Drift and mutation over time, black-figure and red-figure. - 269
4.3.8 Estimates of theta over time, black-figure. - 270
4.3.9 Estimates of theta over time, red-figure. - 270
4.3.10 Estimates of theta over time, black-figure and red-figure. - 270
4.3.11 |tf-te| comparison, model and data. - 271
4.3.12 R squared values over time. - 271
4.3.13 R squared comparison, model and data. - 271
4.3.14 Power laws by date, black-figure oinochoe. - 272
4.3.15 Power laws by date, red-figure oinochoe. - 273
4.3.16 Power laws by date, black-figure and red-figure oinochoe. - 274

Figures Chapter 4.4 Krater.
4.4.1 Sample size over time. - 275
4.4.2 Motifs over time. - 275
4.4.3 Sample size over time. - 275
4.4.4 Mutation over time. - 275
4.4.5 Drift and mutation over time, black-figure. - 276
4.4.6 Drift and mutation over time, red-figure. - 276
4.4.7 Drift and mutation over time, black-figure and red-figure. - 276
4.4.8 Estimates of theta over time, black-figure. - 277
4.4.9 Estimates of theta over time, red-figure. - 277
4.4.10 Estimates of theta over time, black-figure and red-figure. - 277
4.4.11 |tf-te| comparison, model and data. - 278
4.4.12 R squared values over time. - 278
4.4.13 R squared comparison, model and data. - 278
4.4.14 Power laws by date, black-figure krater. - 279
4.4.15 Power laws by date, red-figure krater. - 279
4.4.16 Power laws by date, black-figure and red-figure krater. - 280

Figures Chapter 4.5 Lekythoi.
4.5.1 Sample size over time. - 281
4.5.2 Motifs over time. - 281
4.5.3 New motifs over time. - 281
4.5.4 Mutation over time. - 281
4.5.5 Drift and mutation over time, black-figure. - 282
4.5.6 Drift and mutation over time, red-figure. - 282
4.5.7 Drift and mutation over time, black-figure and red-figure. - 282
4.5.8 Estimates of theta over time, black-figure. - 283
4.5.9 Estimates of theta over time, red-figure. - 283
4.5.10 Estimates of theta over time, black-figure and red-figure. - 283
4.5.11 |tf-te| comparison, model and data. - 284
4.5.12 R squared values over time. - 284
4.5.13 R squared comparison, model and data. - 284
4.5.14 Power laws by date, black-figure lekythoi. - 285
4.5.15 Power laws by date, red-figure lekythoi. - 286
4.5.16 Power laws by date, black-figure and red-figure lekythoi. - 287

Figures Chapter 4.6 Amphorae.
4.6.1 Sample size over time. - 288
4.6.2 Motifs over time. - 288
4.6.3 New motifs over time. - 288
4.6.4 Mutation over time. - 288
4.6.5 Drift and mutation over time, black-figure. - 289
4.6.6 Drift and mutation over time, red-figure. - 289
4.6.7 Drift and mutation over time, black-figure and red-figure. - 289
4.6.8 Estimates of theta over time, black-figure. - 290
4.6.9 Estimates of theta over time, red-figure. - 290
4.6.10 Estimates of theta over time, black-figure and red-figure. - 290
4.6.11 |tf-te| comparison, model and data. - 291
4.6.12 R squared values over time. - 290
4.6.13 R squared comparison, model and data. - 290
4.6.14 Power laws by date, black-figure amphorae. - 292
4.6.15 Power laws by date, red-figure amphorae. - 293
4.6.16 Power laws by date, black-figure and red-figure amphorae. - 294

Figures Chapter 4.7 Hydria.
4.7.1 Sample size over time. - 295
4.7.2 Motifs over time. - 295
4.7.3 New motifs over time. - 295
4.7.4 Mutation over time. - 295
4.7.5 Drift and mutation over time, black-figure. - 296

4.7.6 Drift and mutation over time, red-figure. - 296
4.7.7 Drift and mutation over time, black-figure and red-figure. - 296
4.7.8 Estimates of theta over time, black-figure. - 297
4.7.9 Estimates of theta over time, red-figure. - 297
4.7.10 Estimates of theta over time, black-figure and red-figure. - 297
4.7.11 |tf-te| comparison, model and data. - 298
4.7.12 R squared values over time. - 298
4.7.13 R squared comparison, model and data. - 298
4.7.14 Power laws by date, black-figure hydria. - 299
4.7.15 Power laws by date, red-figure hydria. - 299
4.7.16 Power laws by date, black-figure and red-figure hydria. - 300

Figures Chapter 4.8 Pyxis.
4.8.1 Sample size over time. - 301
4.8.2 Motifs over time. - 301
4.8.3 New motifs over time. - 301
4.8.4 Mutation over time. - 301
4.8.5 Drift and mutation over time, black-figure. - 302
4.8.6 Drift and mutation over time, red-figure. - 302
4.8.7 Drift and mutation over time, black-figure and red-figure. - 302
4.8.8 Estimates of theta over time, black-figure. - 303
4.8.9 Estimates of theta over time, red-figure. - 303
4.8.10 Estimates of theta over time, black-figure and red-figure. - 303
4.8.11 |tf-te| comparison, model and data. - 304
4.8.12 R squared values over time. - 304
4.8.13 R squared comparison, model and data. - 304
4.8.14 Power laws by date, black-figure pyxis. - 305
4.8.15 Power laws by date, red-figure pyxis. - 305
4.8.16 Power laws by date, black-figure and red-figure pyxides. - 306

Figures Chapter 4.9 Plates.
4.9.1 Sample size over time. - 307
4.9.2 Motifs over time. - 307
4.9.3 New motifs over time. - 307
4.9.4 Mutation over time. - 307
4.9.5 Drift and mutation over time, black-figure. - 308
4.9.6 Drift and mutation over time, red-figure. - 308
4.9.7 Drift and mutation over time, black-figure and red-figure. - 308
4.9.8 Estimates of theta over time, black-figure. - 309
4.9.9 Estimates of theta over time, red-figure. - 309
4.9.10 Estimates of theta over time, black-figure and red-figure. - 309
4.9.11 |tf-te| comparison, model and data. - 310
4.9.12 R squared values over time. - 310
4.9.13 R squared comparison, model and data. - 310
4.9.14 Power laws by date, black-figure plates. - 311
4.9.15 Power laws by date, red-figure plates. - 311
4.9.16 Power laws by date, black-figure and red-figure plates. - 311

Figures Chapter 4.10 Ritual.
4.10.1 Sample size over time. - 312
4.10.2 Motifs over time. - 312
4.10.3 New motifs over time. - 312
4.10.4 Mutation over time. - 312
4.10.5 Drift and mutation over time, black-figure. - 313
4.10.6 Drift and mutation over time, red-figure. - 313
4.10.7 Drift and mutation over time, black-figure and red-figure. - 313
4.10.8 Estimates of theta over time, black-figure. - 314
4.10.9 Estimates of theta over time, red-figure. - 314
4.10.10 Estimates of theta over time, black-figure and red-figure. - 314
4.10.11 |tf-te| comparison, model and data. - 315
4.10.12 R squared values over time. - 315

4.10.13 R squared comparison, model and data. - 315
4.10.14 Power laws by date, red-figure ritual. - 316
4.10.15 Power laws by date, black-figure and red-figure ritual. - 316

Figures Chapter 4.11 All shapes.
4.11.1 Sample size over time. - 317
4.11.2 Motifs over time. - 317
4.11.3 New motifs over time. - 317
4.11.4 Mutation over time. - 317
4.11.5 Drift and mutation over time, black-figure. - 318
4.11.6 Drift and mutation over time, red-figure. - 318
4.11.7 Drift and mutation over time, black-figure and red-figure. - 318
4.11.8 Estimates of theta over time, black-figure. - 319
4.11.9 Estimates of theta over time, red-figure. - 319
4.11.10 Estimates of theta over time, black-figure and red-figure. - 319
4.11.11 |tf-te| comparison, model and data. - 320
4.11.12 R squared values over time. - 320
4.11.13 R squared comparison, model and data. - 320
4.11.14 Power laws by date, black-figure all shapes. - 321
4.11.15 Power laws by date, red-figure all shapes. - 322
4.11.16 Power laws by date, black-figure and red-figure all shapes. - 323

Figures Chapter 5.
5.1 Black-figure cups Proportion of top 10 motifs over time. - 324
5.2 Red-figure cups Proportion of top 10 motifs over time. - 324
5.3 Black-figure and red-figure cups Proportion of top 10 motifs over time. - 324
5.4 Black-figure skyphos Proportion of top 10 motifs over time. - 325
5.5 Red-figure skyphos Proportion of top 10 motifs over time. - 325
5.6 Black-figure and red-figure skyphos Proportion of top 10 motifs over time. - 325
5.7 Black-figure oinochoe Proportion of top 10 motifs over time. - 326
5.8 Red-figure oinochoe Proportion of top 10 motifs over time. - 326
5.9 Black-figure and red-figure oinochoe Proportion of top 10 motifs over time. - 326
5.10 Black-figure krater Proportion of top 10 motifs over time. - 327
5.11 Red-figure krater Proportion of top 10 motifs over time. - 327
5.12 Black-figure and red-figure krater Proportion of top 10 motifs over time. - 327
5.13 Black-figure lekythoi Proportion of top 10 motifs over time. - 328
5.14 Red-figure lekythoi Proportion of top 10 motifs over time. - 328
5.15 Black-figure and red-figure lekythoi Proportion of top 10 motifs over time. - 328
5.16 Black-figure amphorae Proportion of top 10 motifs over time. - 329
5.17 Red-figure amphorae Proportion of top 10 motifs over time. - 329
5.18 Black-figure and red-figure amphorae Proportion of top 10 motifs over time. - 329
5.19 Black-figure hydria Proportion of top 10 motifs over time. - 330
5.20 Red-figure hydria Proportion of top 10 motifs over time. - 330
5.21 Black-figure and red-figure hydria Proportion of top 10 motifs over time. - 330
5.22 Black-figure all shapes Proportion of top 10 motifs over time. - 331
5.23 Red-figure all shapes Proportion of top 10 motifs over time. - 331
5.24 Black-figure and red-figure all shapes Proportion of top 10 motifs over time. - 331

5.25 Black-figure pyxis: Proportion of top 50 motifs. - 332
5.26 Red-figure pyxis: Proportion of top 50 motifs. - 332
5.27 Black-figure and red-figure pyxis: Proportion of top 50 motifs. - 332
5.28 Black-figure cups: Proportion of top 50 motifs. - 333
5.29 Red-figure cups: Proportion of top 50 motifs. - 333
5.30 Black-figure and red-figure cups: Proportion of top 50 motifs. - 333
5.31 Black-figure lekythoi: Proportion of top 50 motifs. - 334
5.32 Red-figure lekythoi: Proportion of top 50 motifs. - 334
5.33 Black-figure and red-figure lekythoi: Proportion of top 50 motifs. - 334
5.34 Black-figure plates: Proportion of top 50 motifs. - 335
5.35 Red-figure plates: Proportion of top 50 motifs. - 335
5.36 Black-figure and red-figure plates: Proportion of top 50 motifs. - 335
5.37 Black-figure ritual: Proportion of top 50 motifs. - 336

5.38 Red-figure ritual: Proportion of top 50 motifs. - 336
5.39 Black-figure and red-figure ritual: Proportion of top 50 motifs. - 336
5.40 Black-figure skyphos Proportion of top 50 motifs. - 337
5.41 Red-figure skyphos: Proportion of top 50 motifs. - 337
5.42 Black-figure and red-figure skyphos: Proportion of top 50 motifs. - 337
5.43 Black-figure amphorae: Proportion of top 50 motifs. - 338
5.44 Red-figure amphorae: Proportion of top 50 motifs. - 338
5.45 Black-figure and red-figure amphorae: Proportion of top 50 motifs. - 338
5.46 Black-figure hydria: Proportion of top 50 motifs. - 339
5.47 Red-figure hydria: Proportion of top 50 motifs. - 339
5.48 Black-figure and red-figure hydria: Proportion of top 50 motifs. - 339
5.49 Black-figure oinochoe: Proportion of top 50 motifs. - 340
5.50 Red-figure oinochoe: Proportion of top 50 motifs. - 340
5.51 Black-figure and red-figure oinochoe: Proportion of top 50 motifs. - 340
5.52 Black-figure kraters: Proportion of top 50 motifs. - 341
5.53 Red-figure kraters: Proportion of top 50 motifs. - 341
5.54 Black-figure and red-figure kraters: Proportion of top 50 motifs. - 341

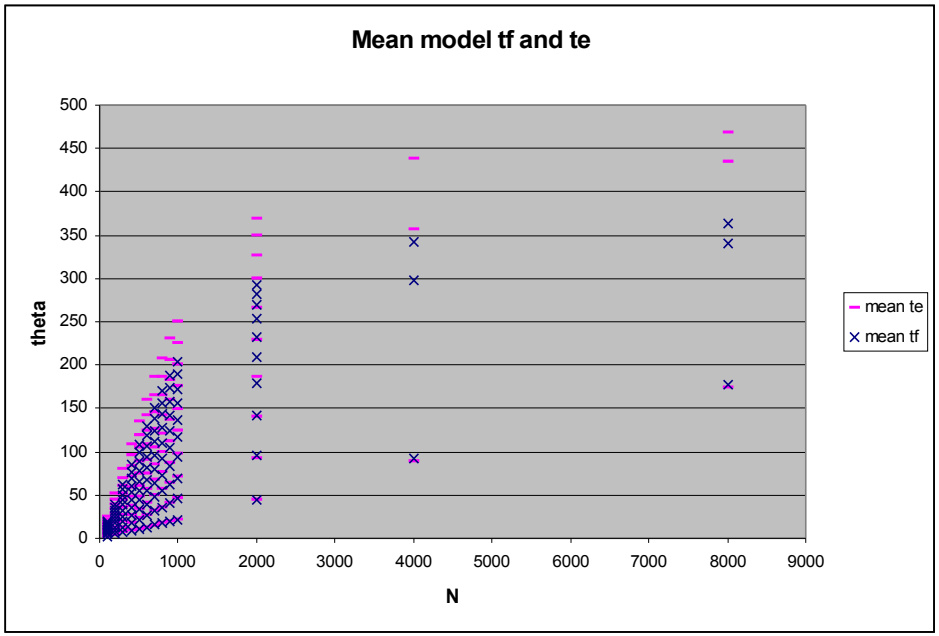
5.55 Herakles vs Theseus, comparison of actual observations in the database. - 342
5.56 Herakles vs Theseus, comparison of proportions of all motifs for each period. - 342
5.57 Herakles vs Theseus, comparison of change in proportion. - 342
5.58 Turnover rate for all 158 motifs occurring 10 or more times. - 343
5.59 Turnover rate for the 10 motifs with the highest variability. - 344
5.60 Turnover rate for the 10 motifs with the highest variability (550 – 500 onwards only). - 344

5.61 Turnover rate for motifs by top y, all shapes, all techniques. - 345
5.62 Turnover rate of model vs data, 575 to 525, all shapes, all techniques. - 345
5.63 Turnover rate of model vs data, 550 to 500, all shapes, all techniques. - 345
5.64 Turnover rate of model vs data, 525 to 475, all shapes, all techniques. - 345
5.65 Turnover rate of model vs data, 500 to 450, all shapes, all techniques. - 346
5.66 Turnover rate of model vs data, 475 to 425, all shapes, all techniques. - 346
5.67 Turnover rate of model vs data, 450 to 400, all shapes, all techniques. - 346
5.68 Turnover rate of model vs data, 425 to 375, all shapes, all techniques. - 346
5.69 Turnover rate of model vs data, 425 to 375, all shapes, all techniques. - 347

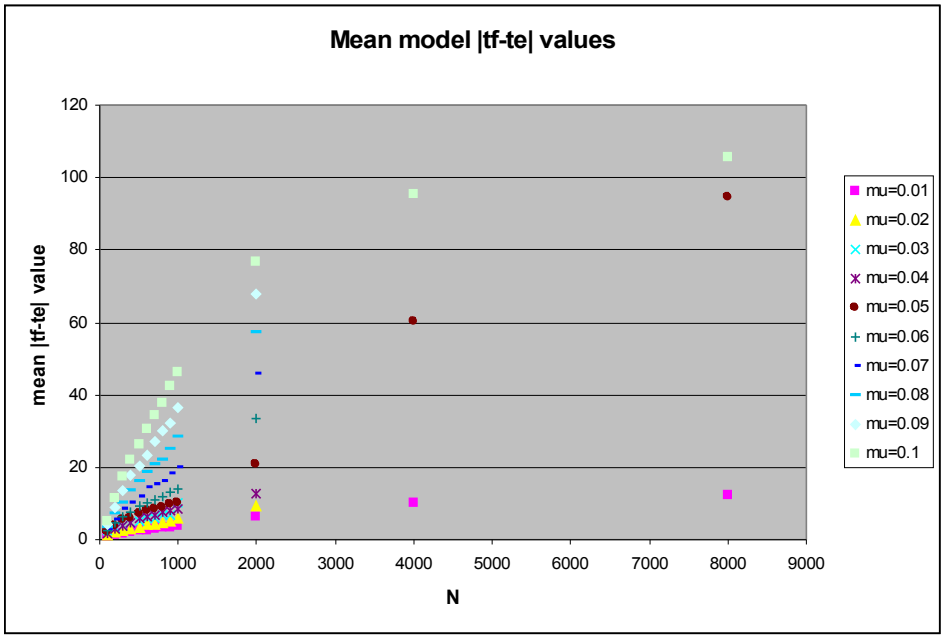
Figures Chapter 6.
6.1 All techniques, by date and number of pots. - 348
6.2 Sub techniques, by date and number of pots. - 348
6.3 Minor sub techniques, by date and number of pots. - 348
6.4 White ground as a sub-technique of black-figure and red-figure. - 348
6.5 Log log plot showing the probabilities of the frequencies of all techniques, all dates. - 349
6.6 Log log plot showing the probabilities of the frequencies of all techniques, 525 to 475 only. - 349
6.7 Distribution of sub-techniques across shapes. - 350
6.8 Proportions of expected totals of sub-techniques across shapes. - 350
6.9 Proportions of expected totals of minor sub-techniques (not white ground) across shapes. - 350

Figures Chapter 7.
7.1 Pan and Boreas Proportions on all shapes in all techniques. - 351
7.2 Theseus and related motifs Proportions on all shapes in all techniques. - 351
7.3 Theseus and subjects from the Theseion Proportions on all shapes in all techniques. - 351
7.4 Relative popularity of Nike, Eros and Theseus across all shapes and in all techniques. - 351
7.5 Relative popularity of Nike and related motifs across all shapes and in all techniques. - 352
7.6 Relative popularity of Eros and related motifs across all shapes and in all techniques. - 352
7.7 Number of lekythoi by technique. - 352
7.8 Proportion of techniques used on lekythoi. - 352

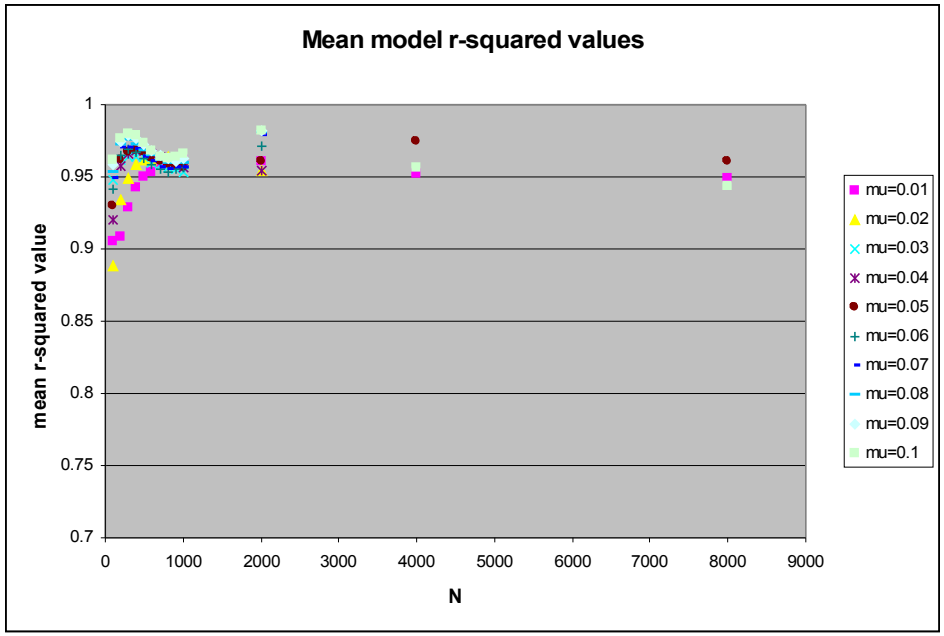
Figures Chapter 2



2.1. Mean values of te and tf for different values on N and mu.

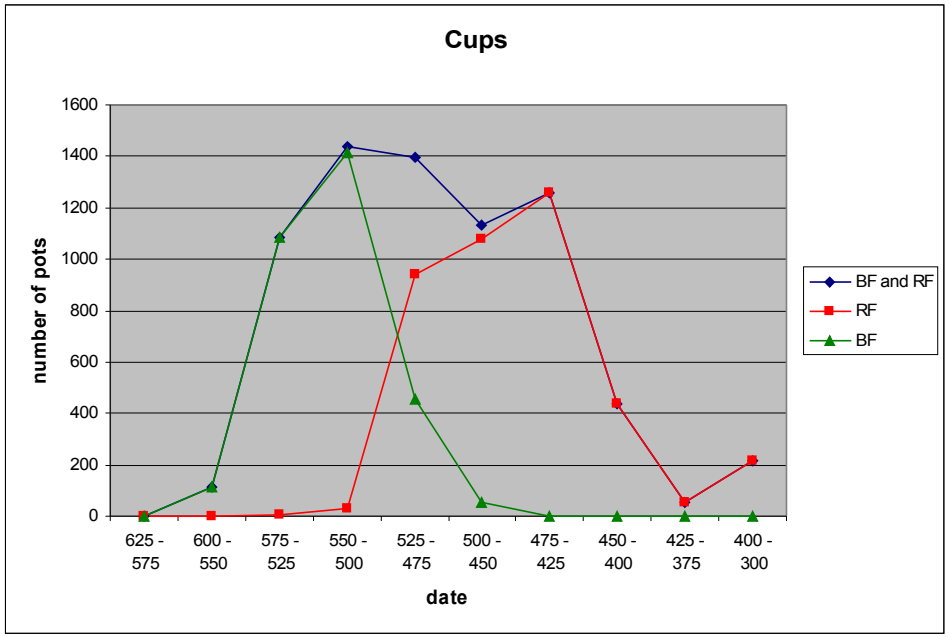


2.2. Mean |tf-te| values for different values on N and mu.

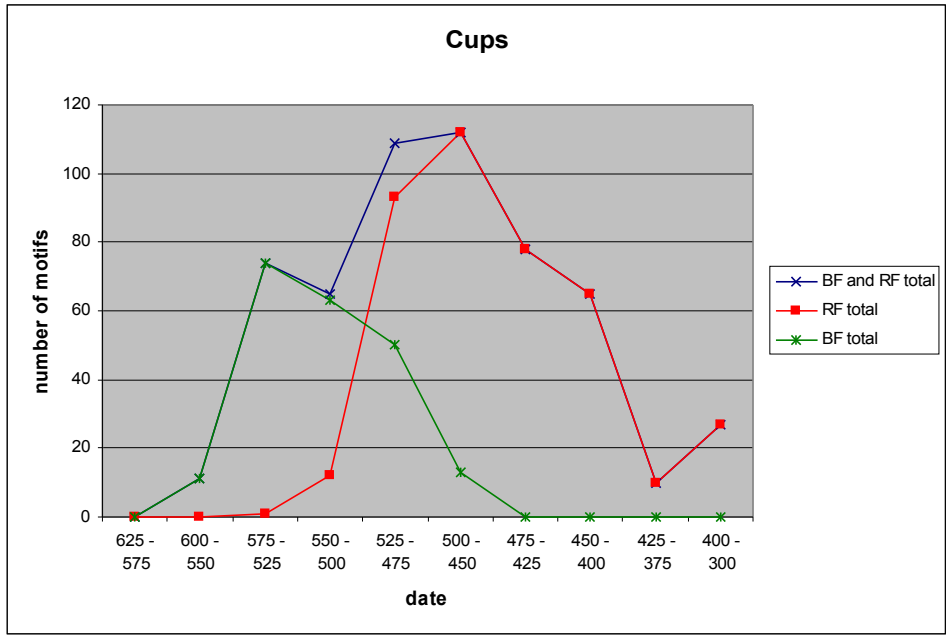


2.3. Mean r-squared values for different values on N and mu.

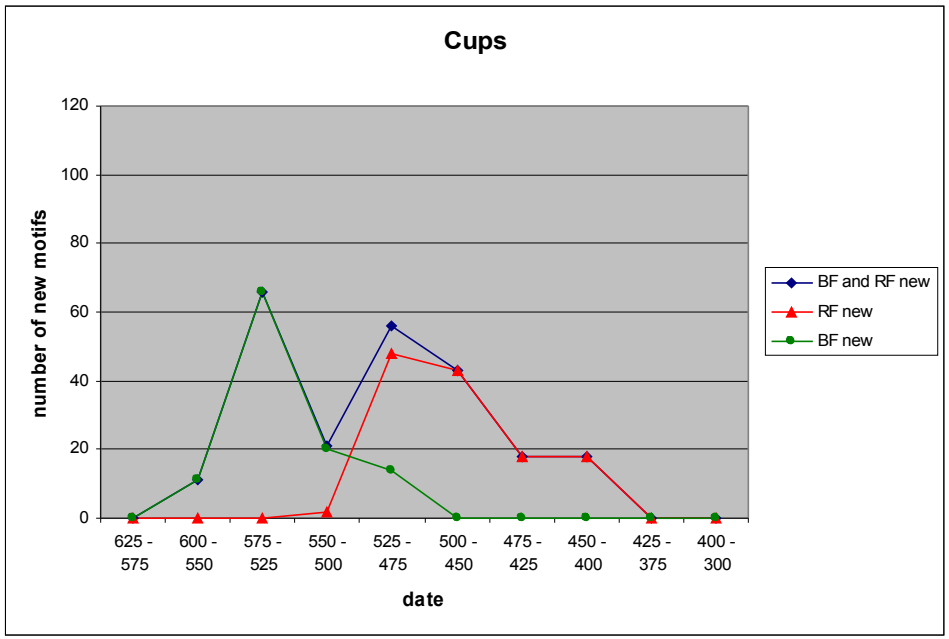
Figures Chapter 4.1 Cups



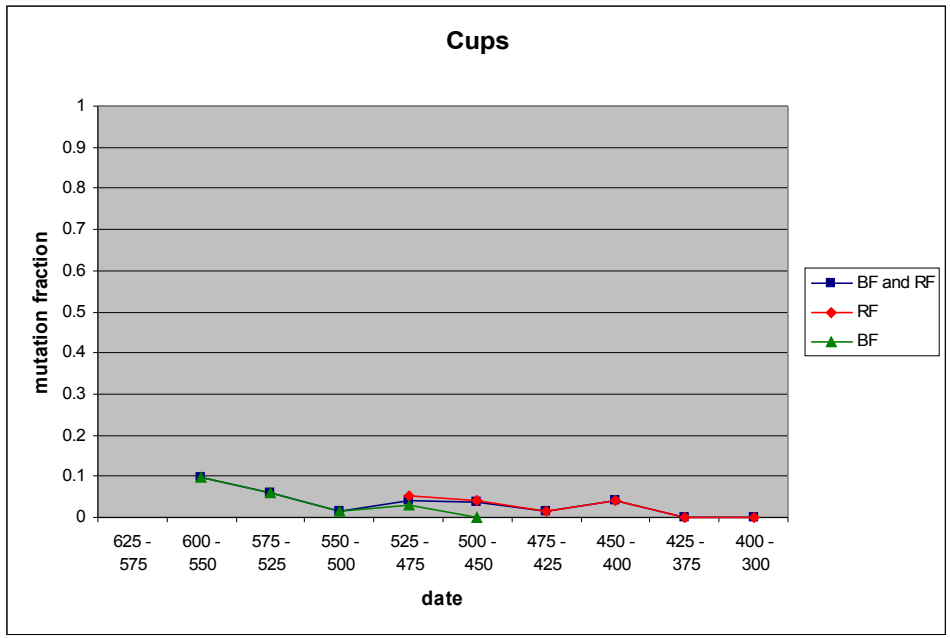
4.1.1 Sample size over time



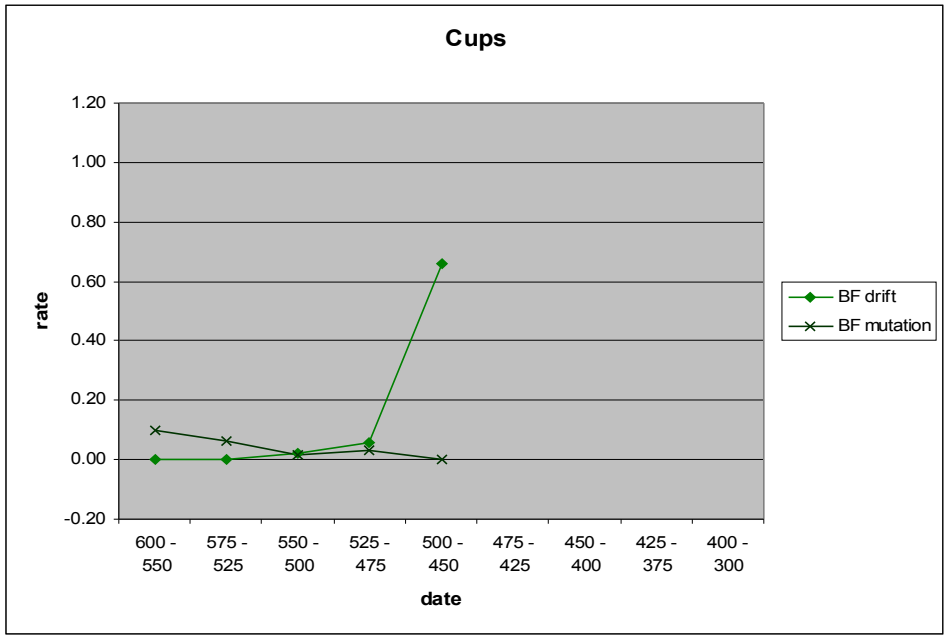
4.1.2 Motifs over time



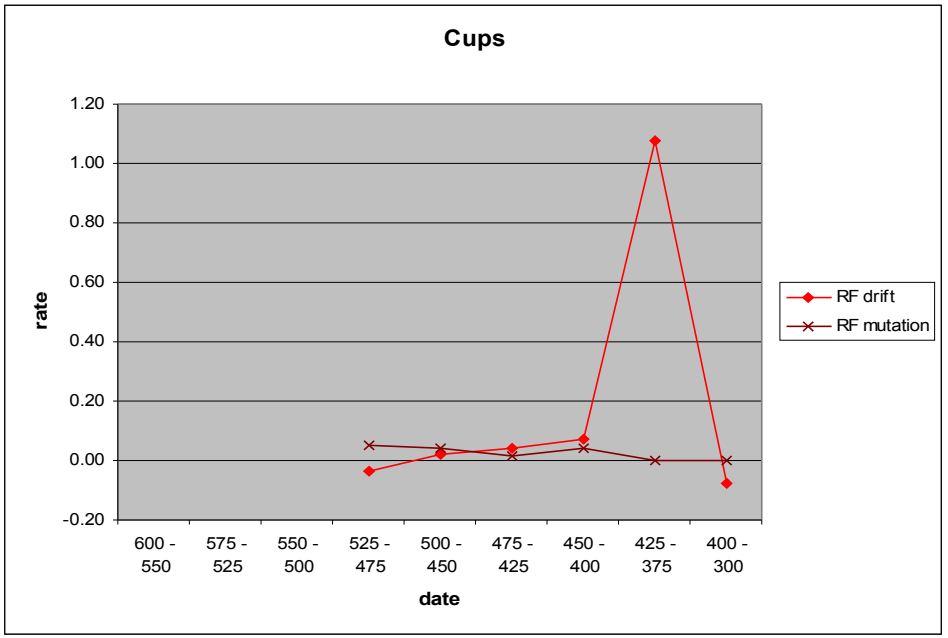
4.1.3 New motifs over time



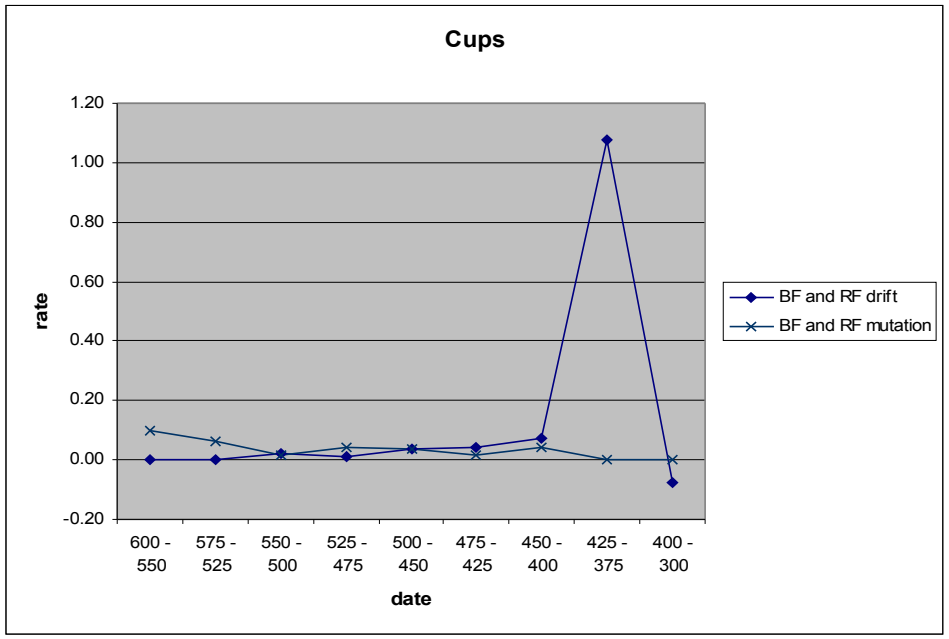
4.1.4 Mutation over time



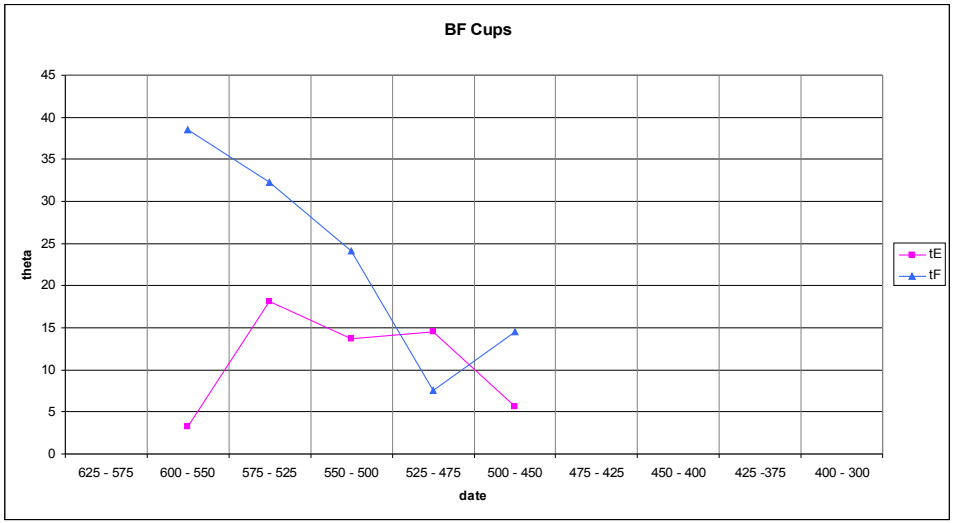
4.1.5 Drift and mutation over time, black-figure



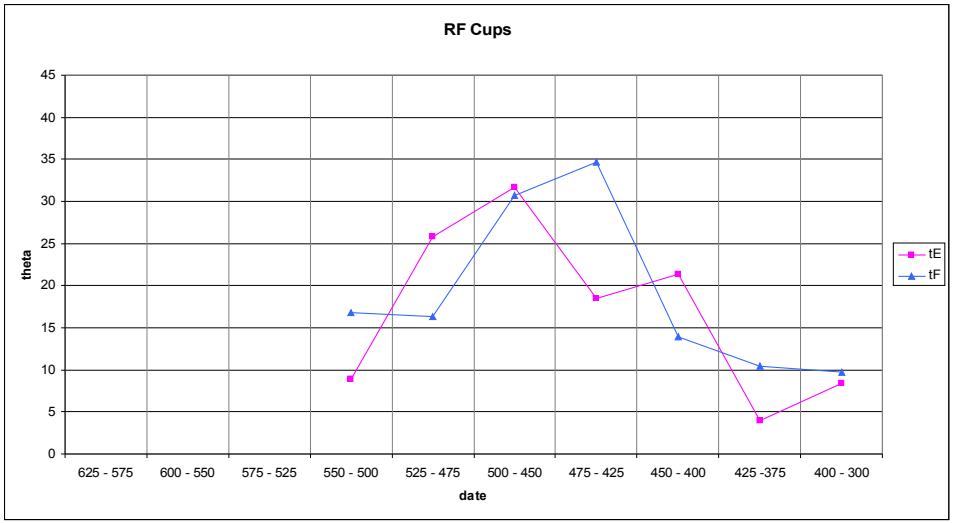
4.1.6 Drift and mutation over time, red-figure



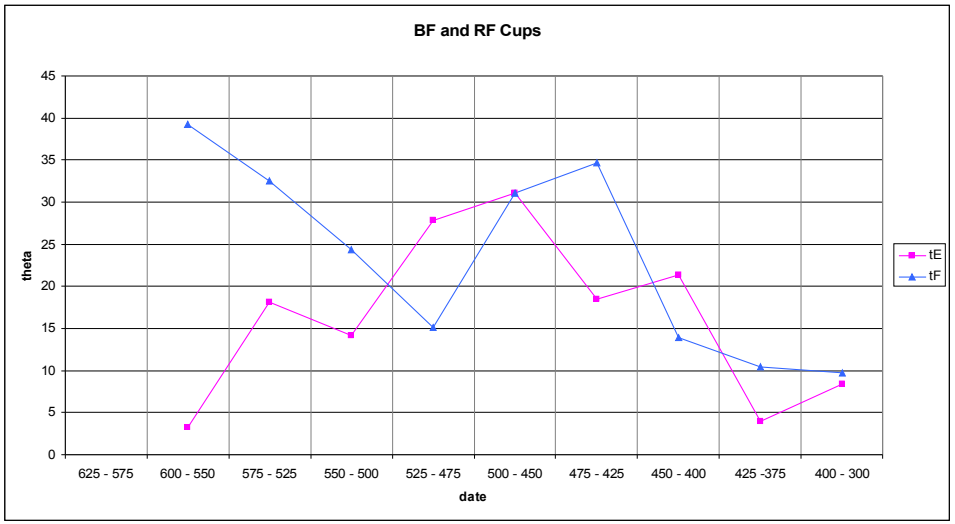
4.1.7 Drift and mutation over time, black-figure and red-figure



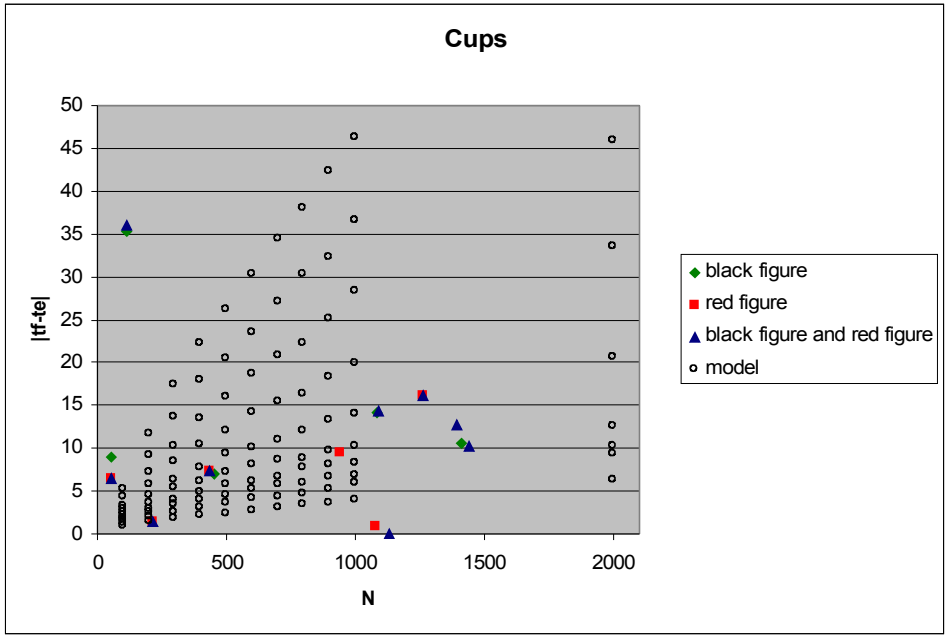
4.1.8 Estimates of theta over time, black-figure.



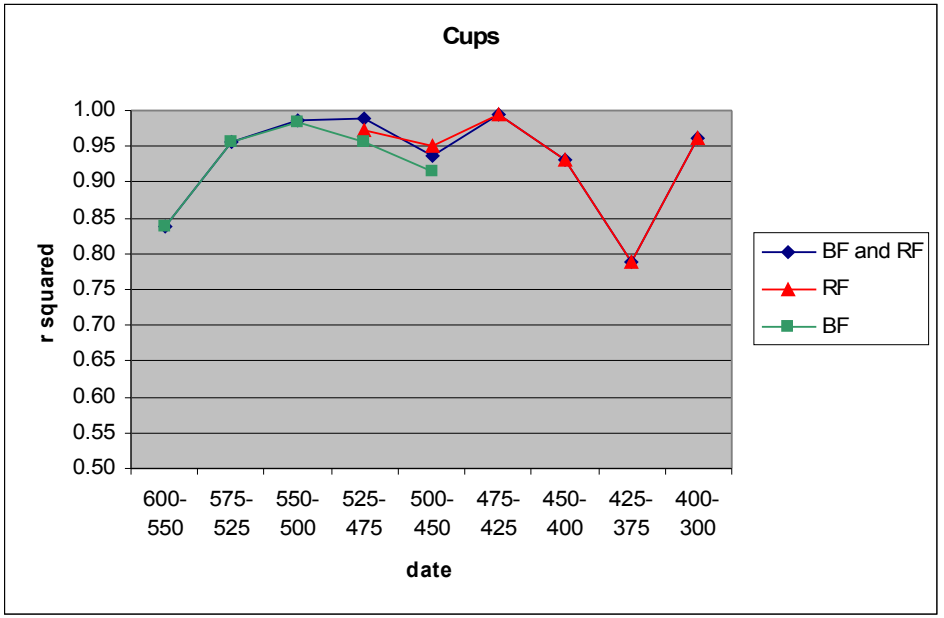
4.1.9 Estimates of theta over time, red-figure.



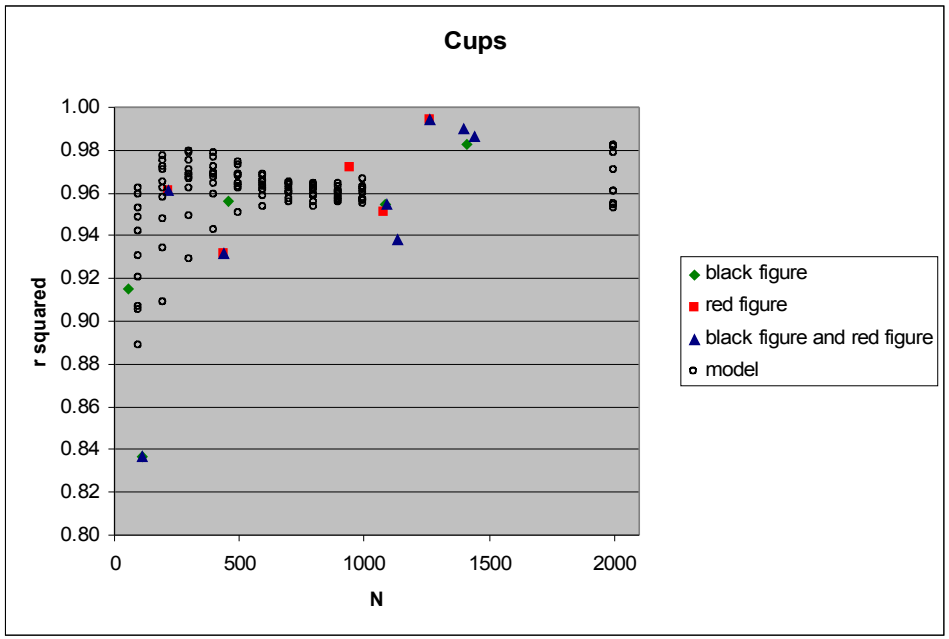
4.1.10 Estimates of theta over time, black-figure and red-figure.



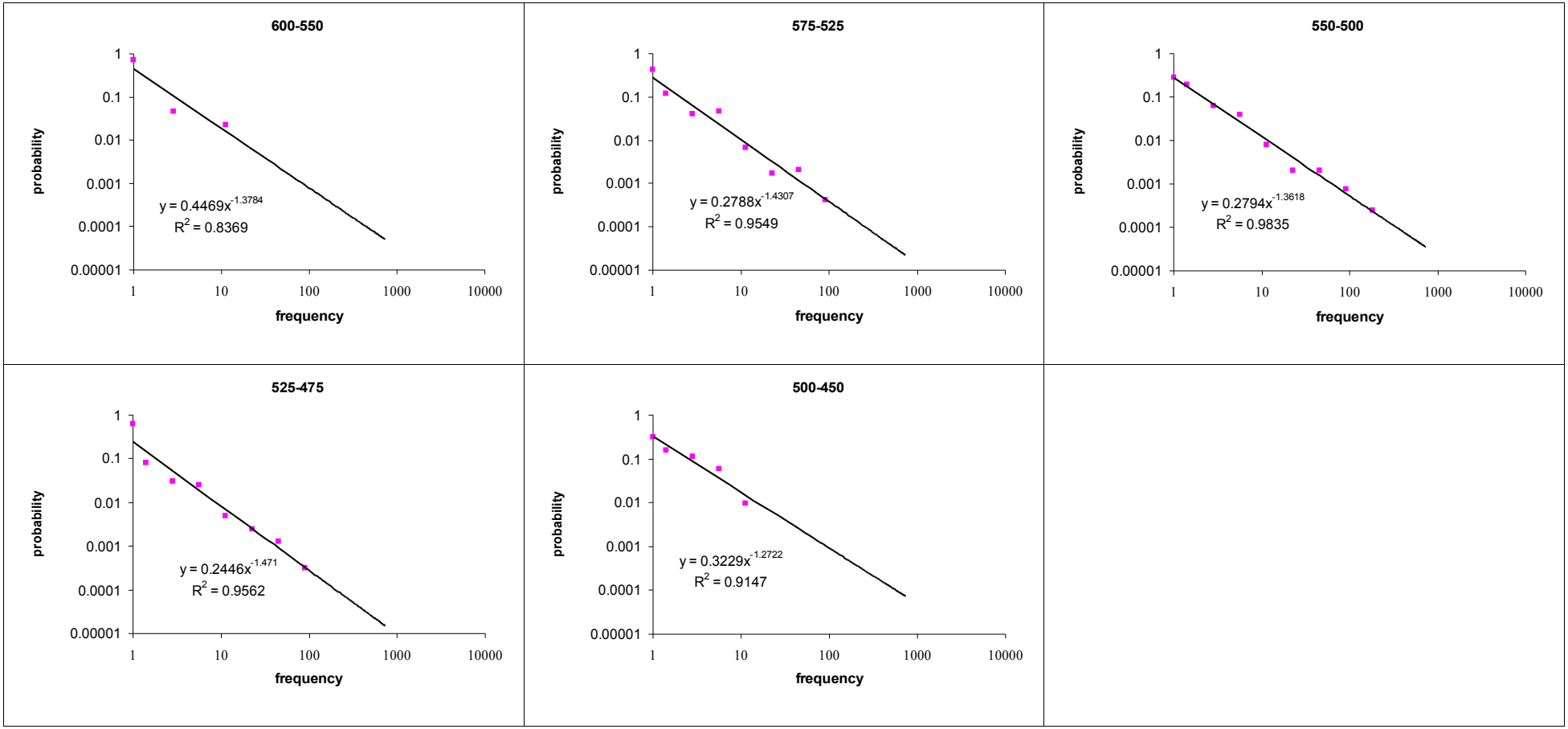
4.1.11 |tf-te| comparison, model and data



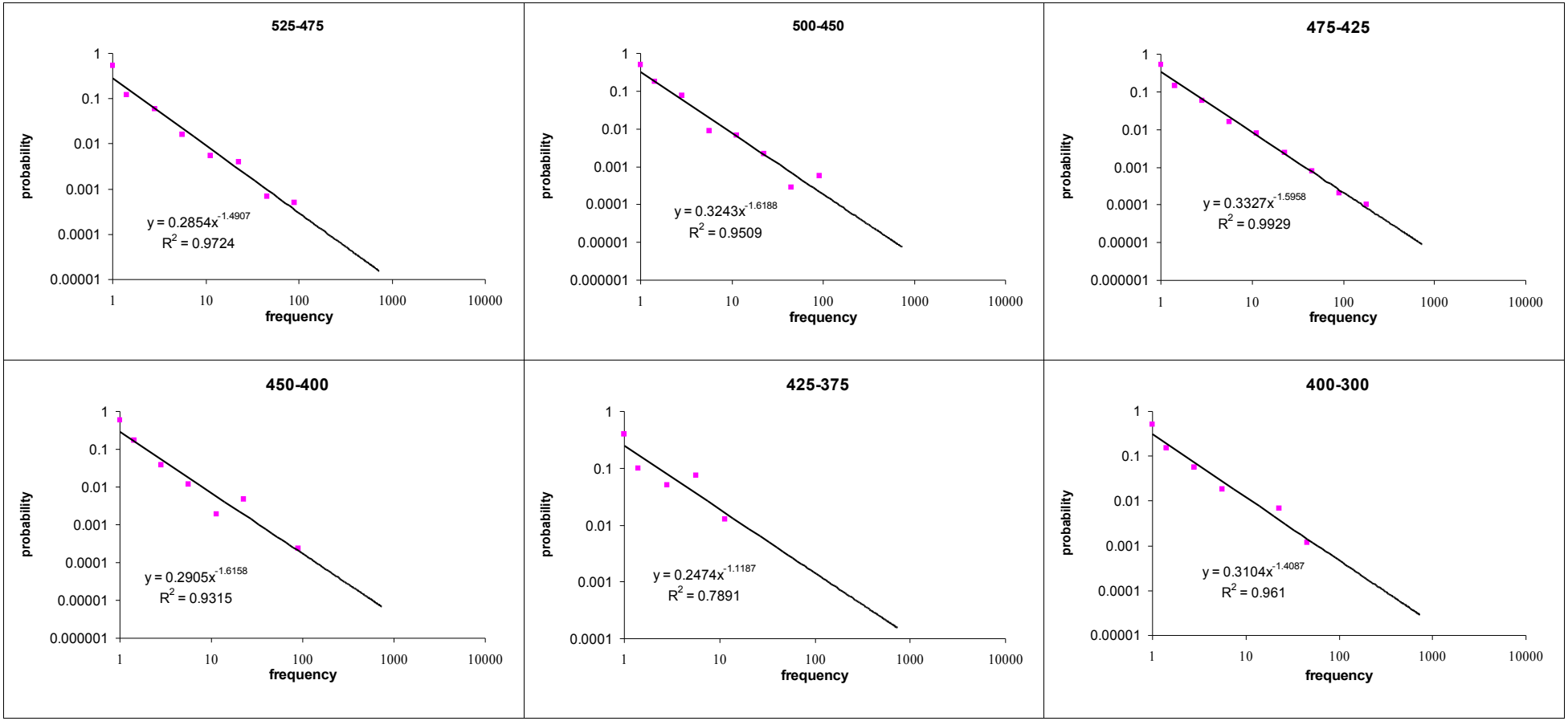
4.1.12 R squared values over time



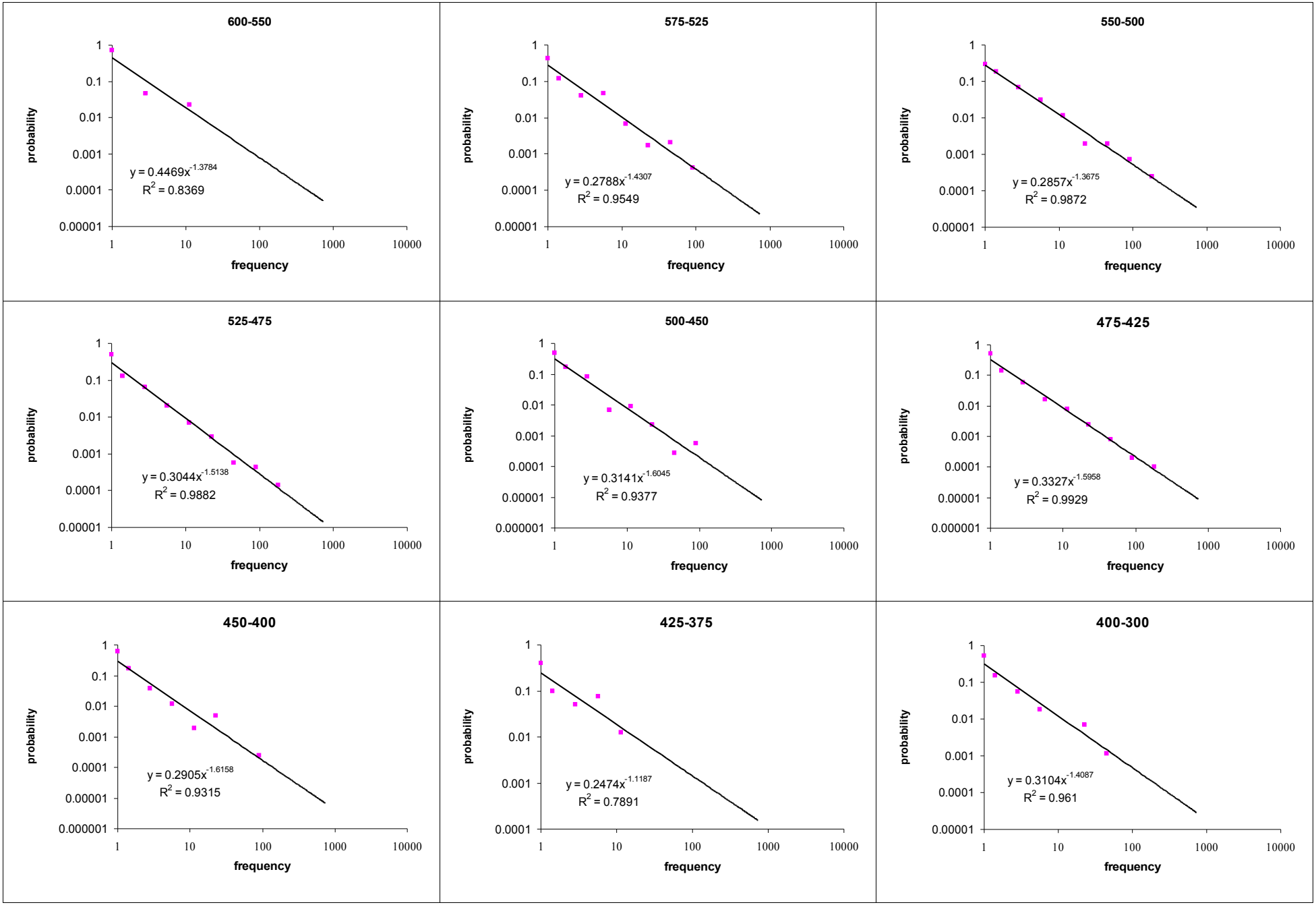
4.1.13 R squared comparison, model and data



4.1.14 Power laws by date, black-figure cups

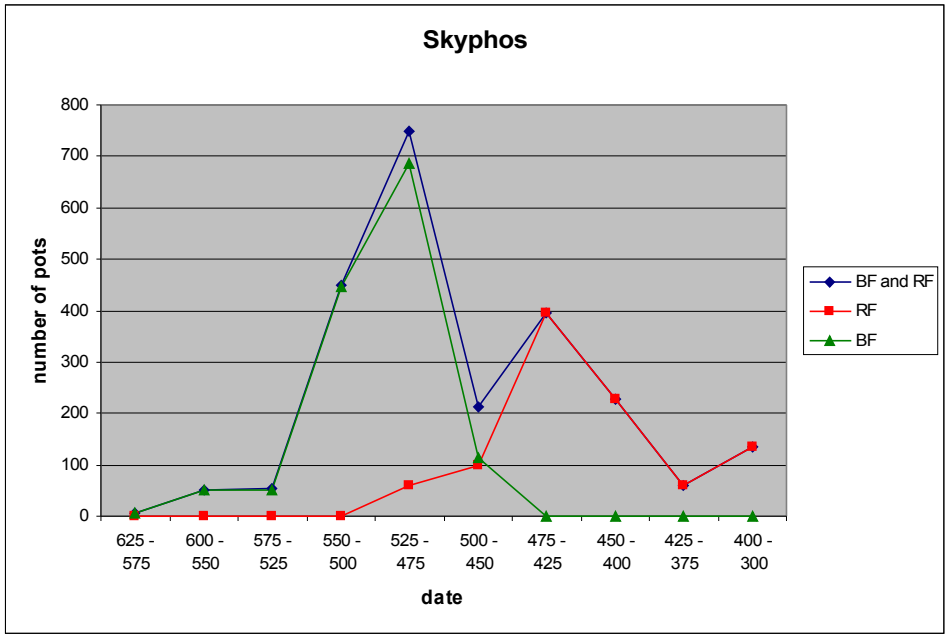


4.1.15 Power laws by date, red-figure cups

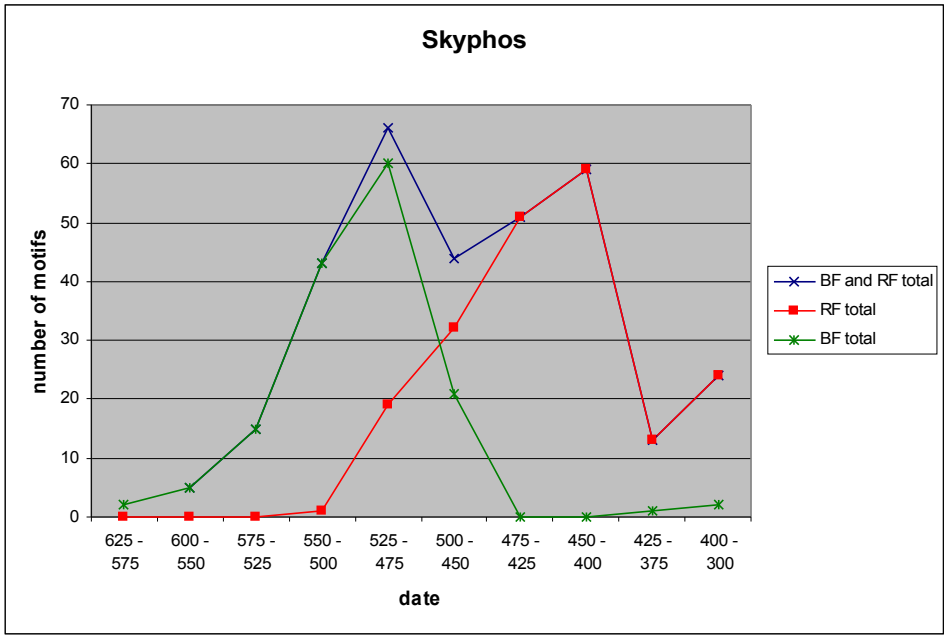


4.1.16 Power laws by date, black-figure and red-figure cups

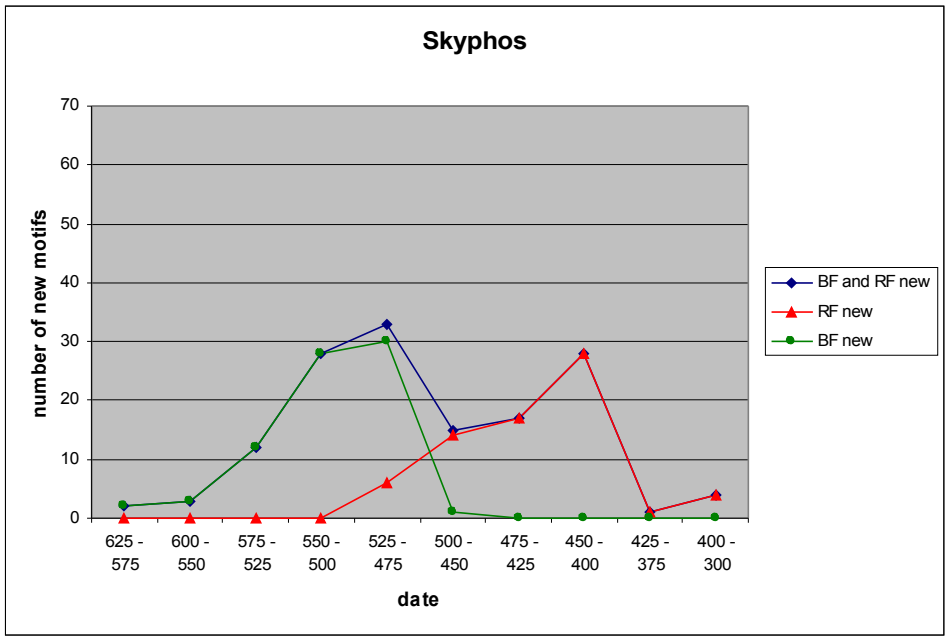
Figures Chapter 4.2 Skyphos



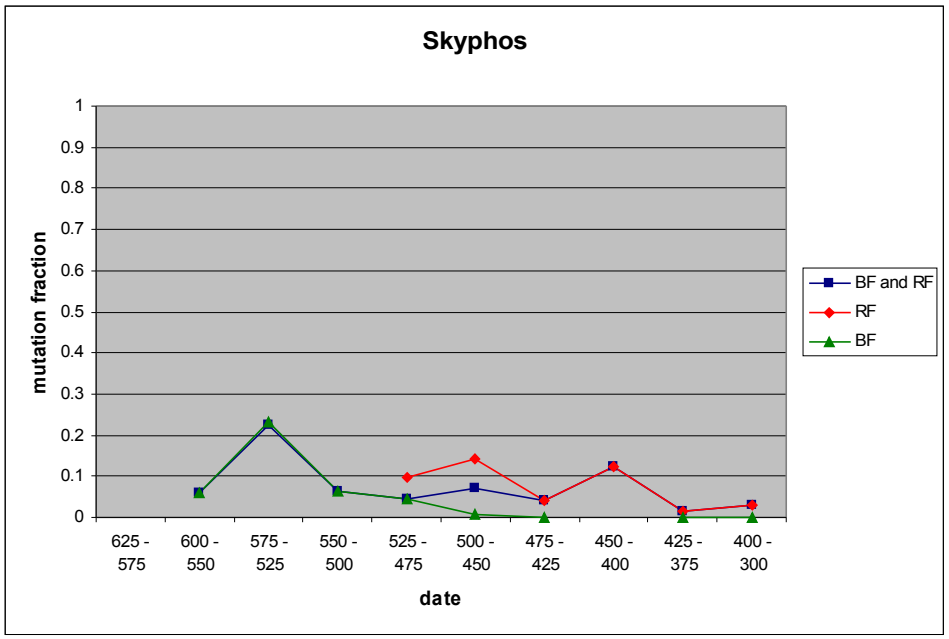
4.2.1 Sample size over time



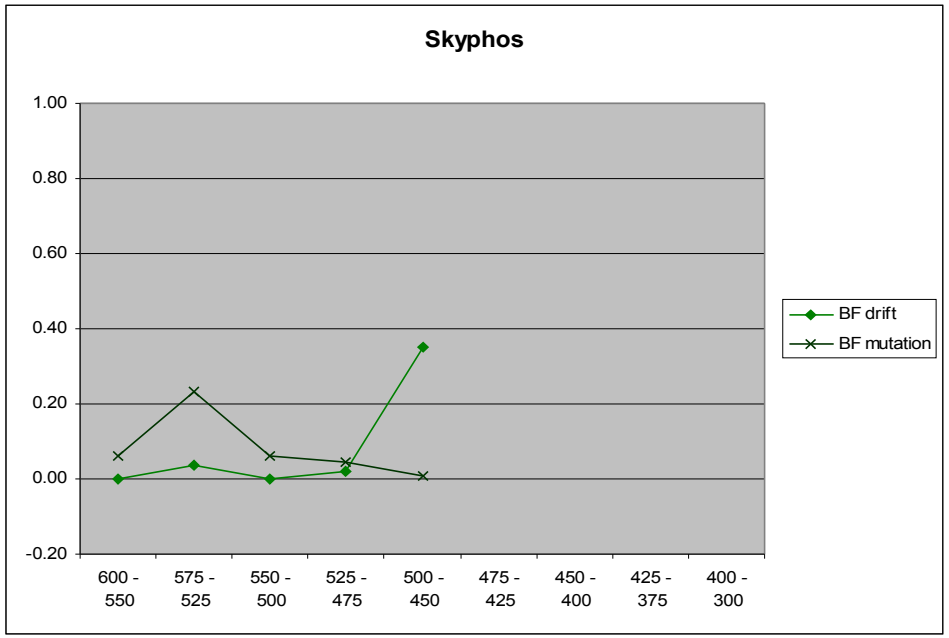
4.2.2 Motifs over time



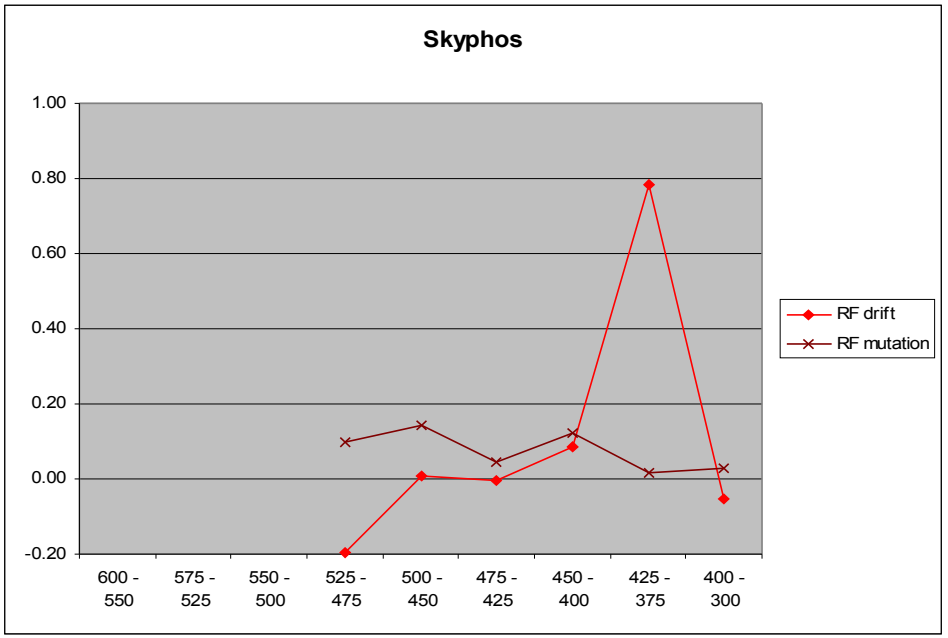
4.2.3 New motifs over time



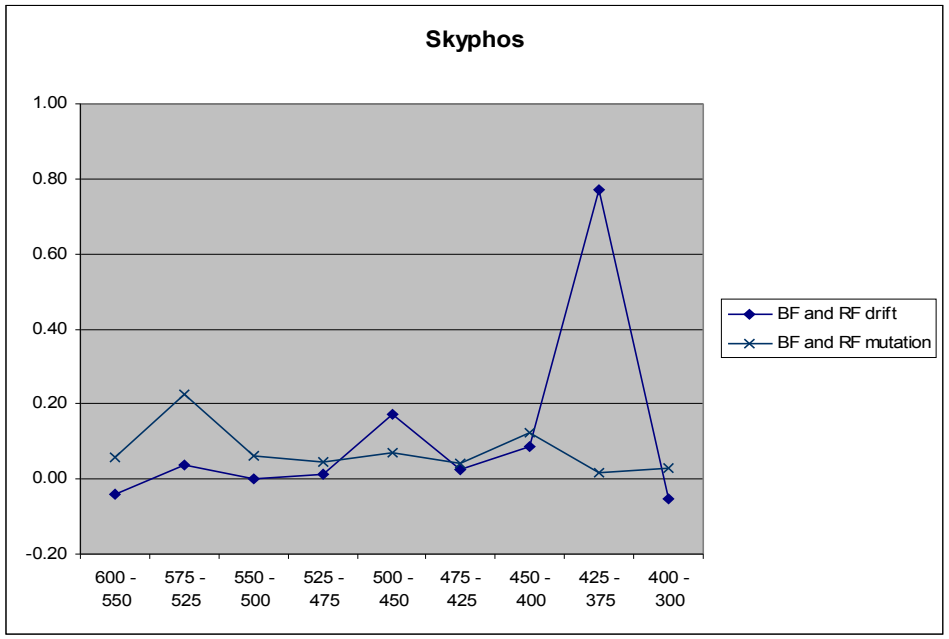
4.2.4 Mutation over time



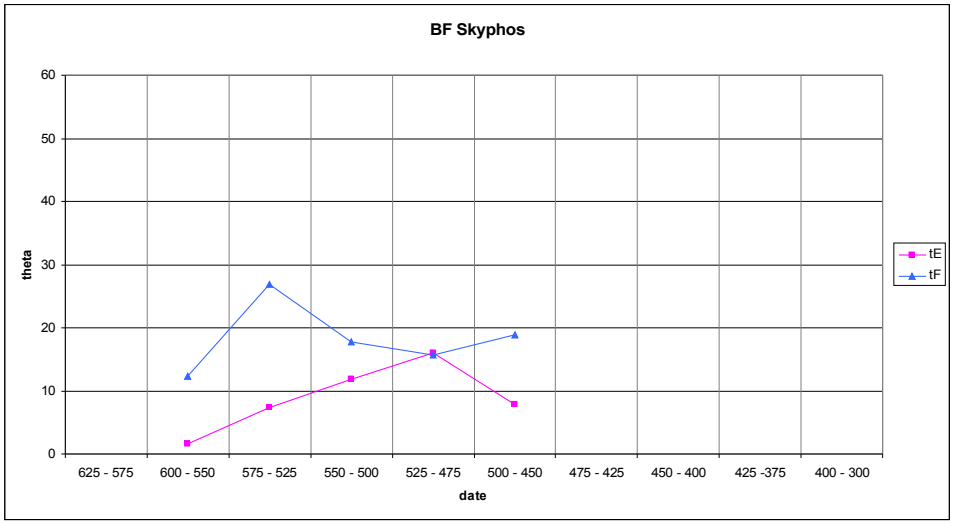
4.2.5 Drift and mutation over time, black-figure



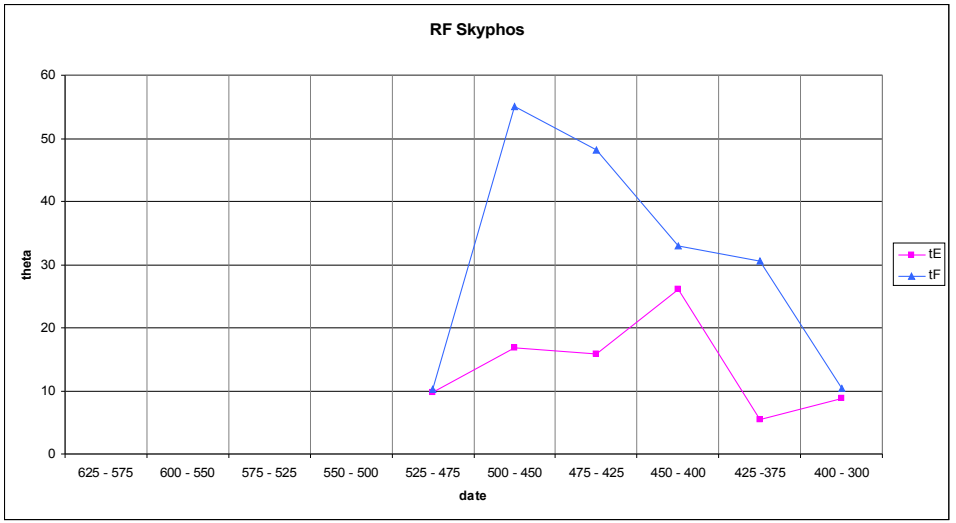
4.2.6 Drift and mutation over time, red-figure



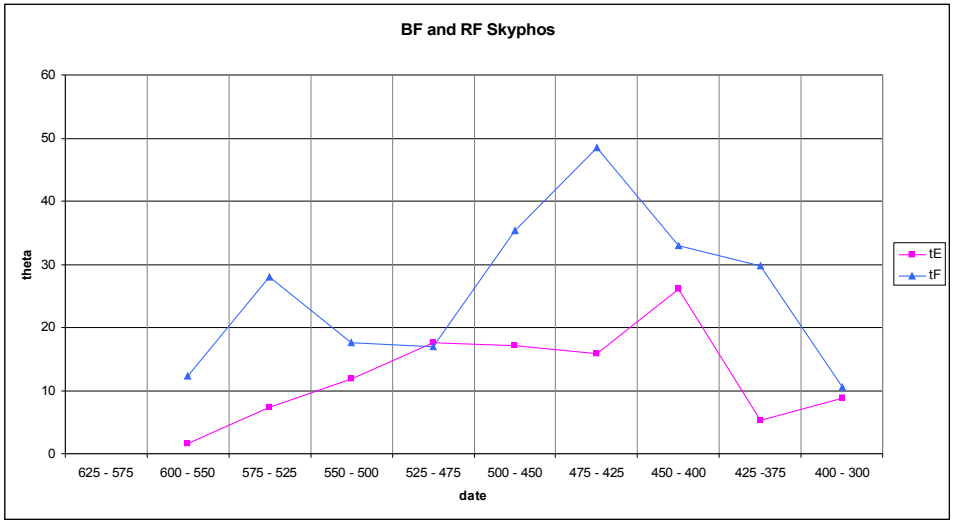
4.2.7 Drift and mutation over time, black-figure and red-figure



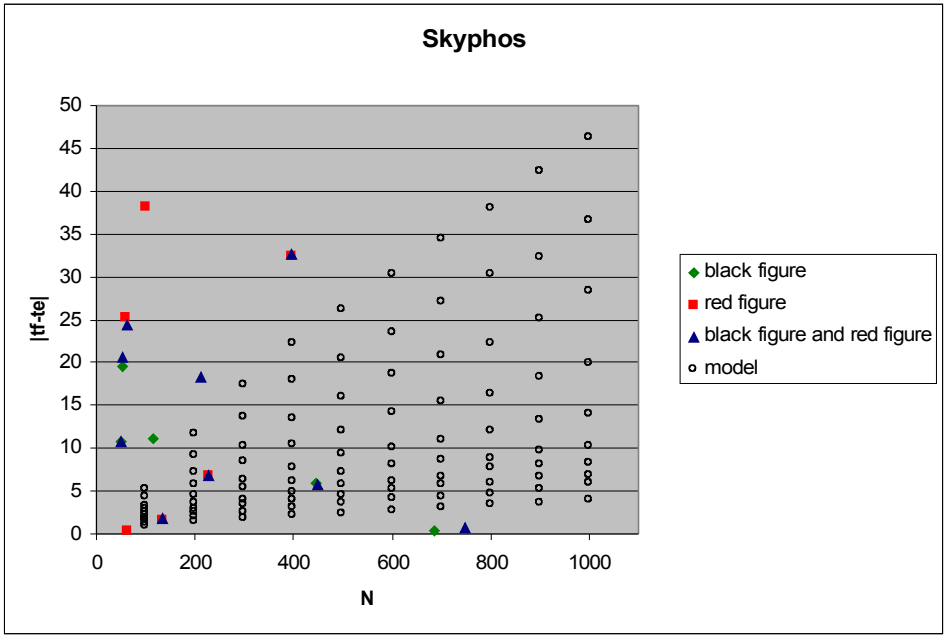
4.2.8 Estimates of theta over time, black-figure



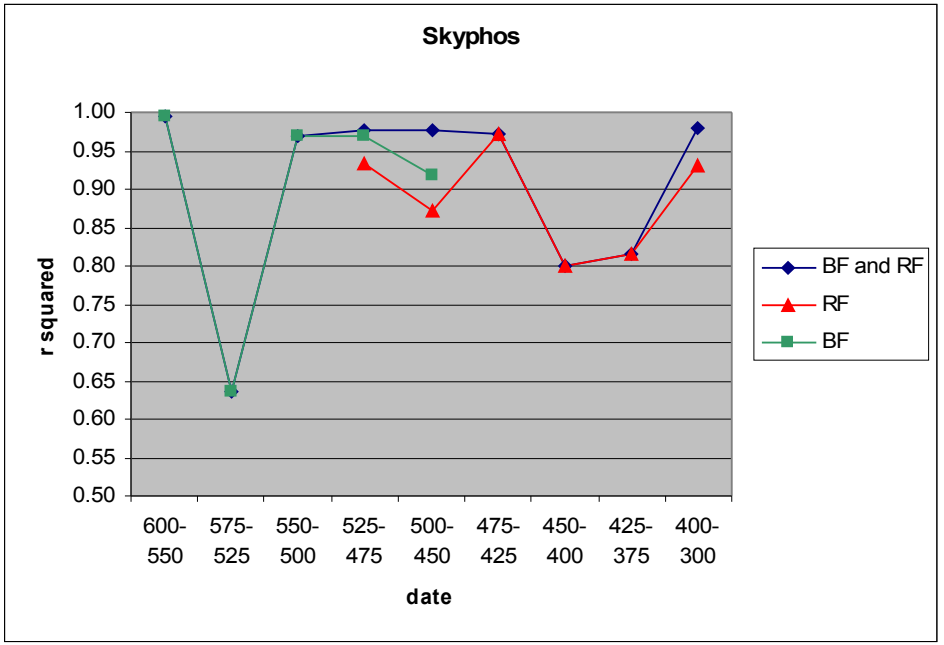
4.2.9 Estimates of theta over time, red-figure



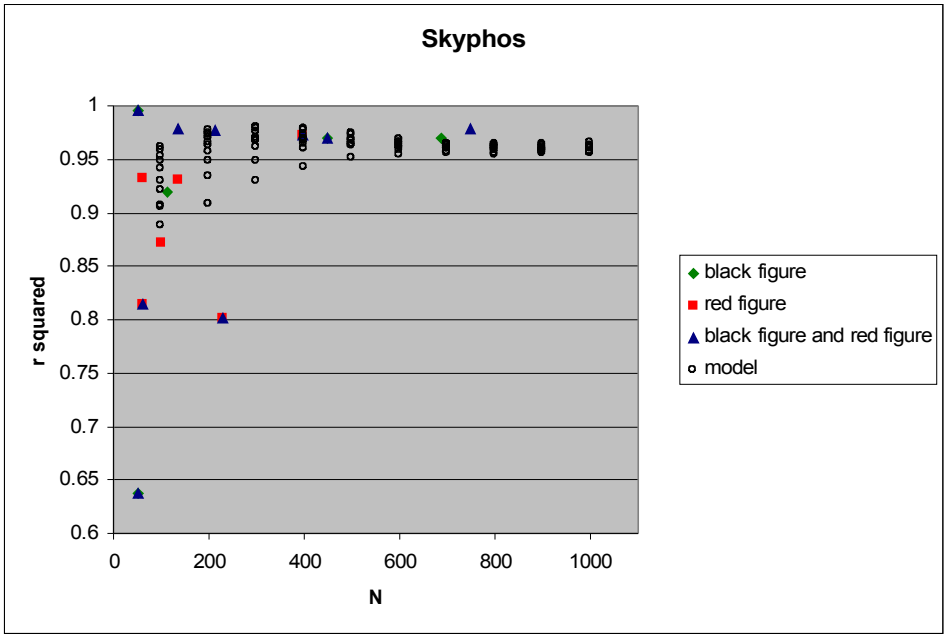
4.2.10 Estimates of theta over time, black-figure and red-figure



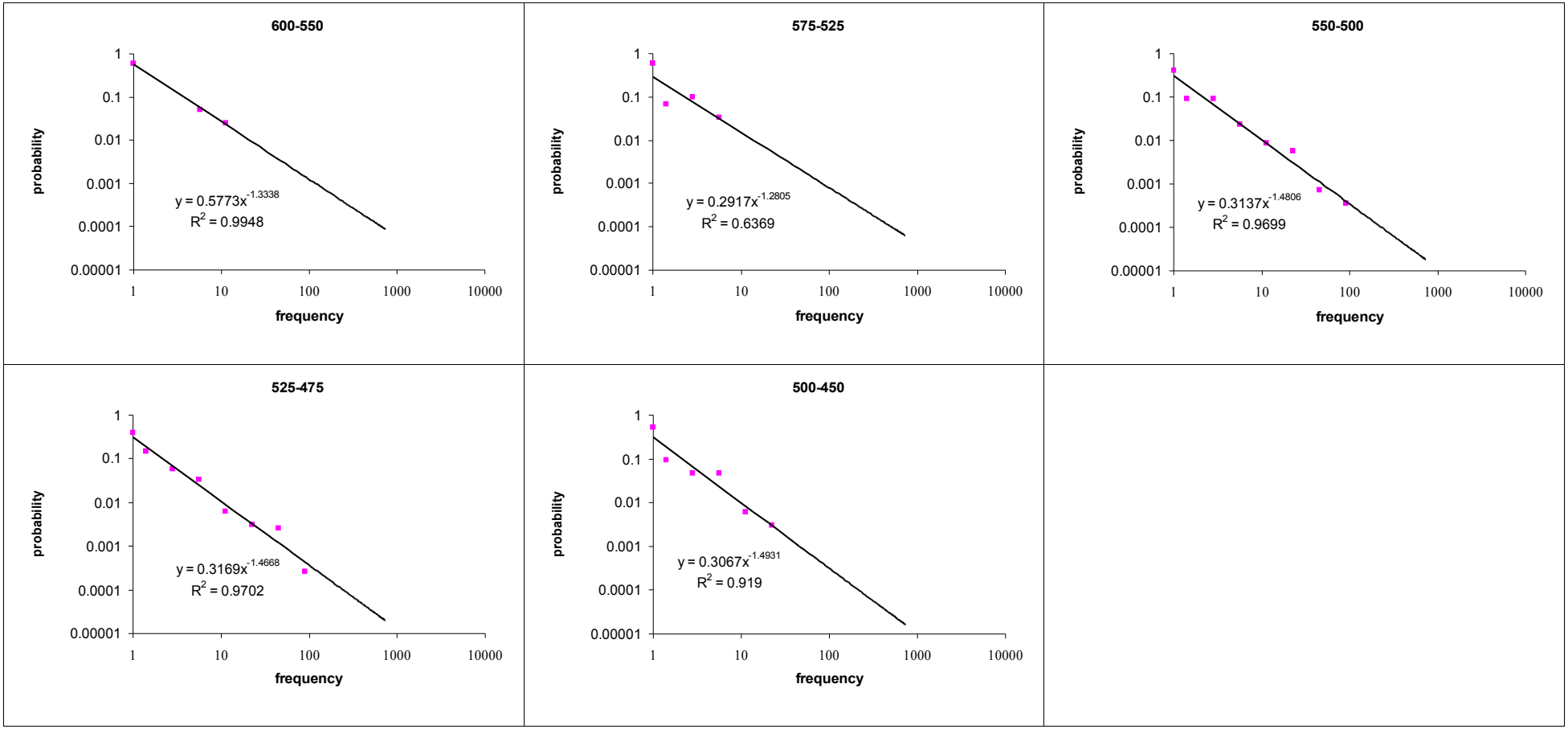
4.2.11 |tf-te| comparison, model and data



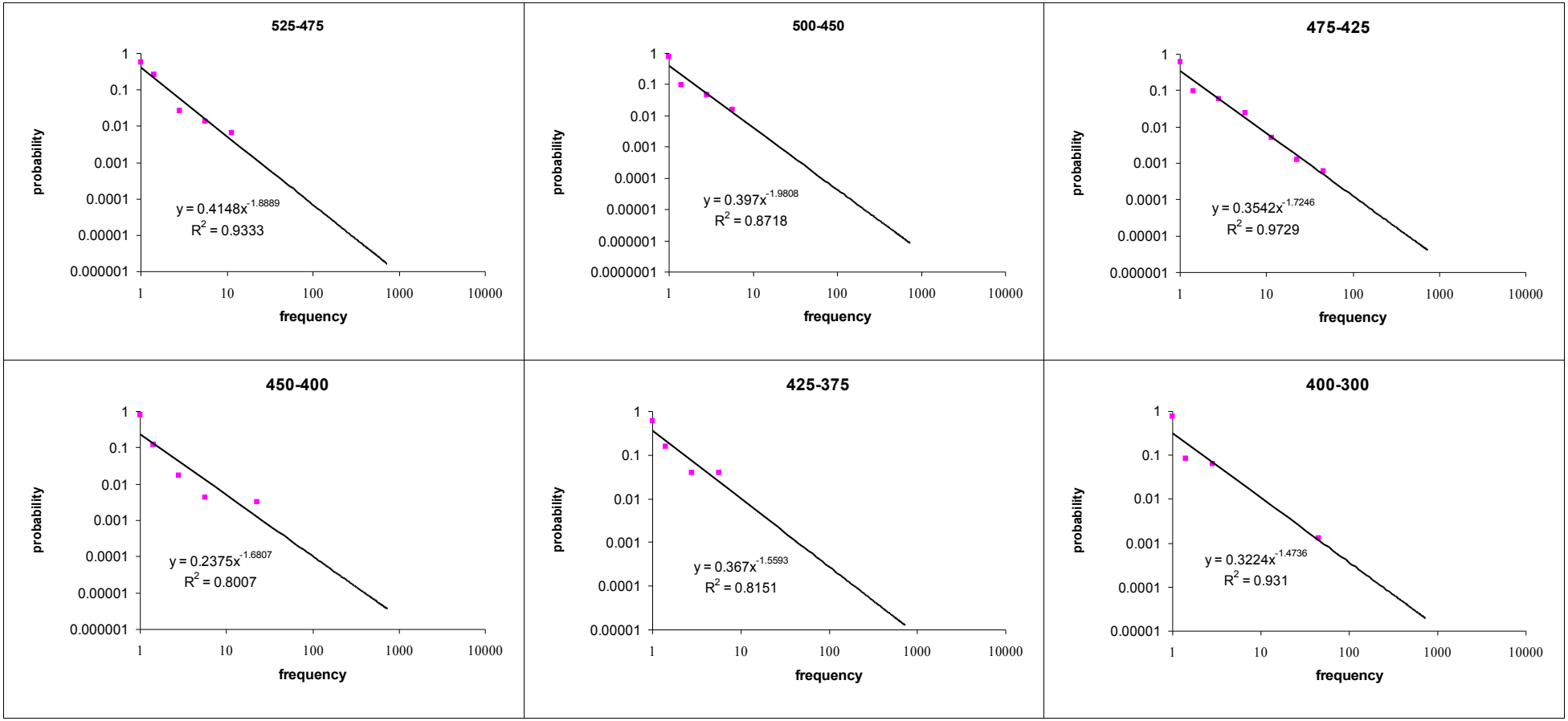
4.2.12 R squared values over time



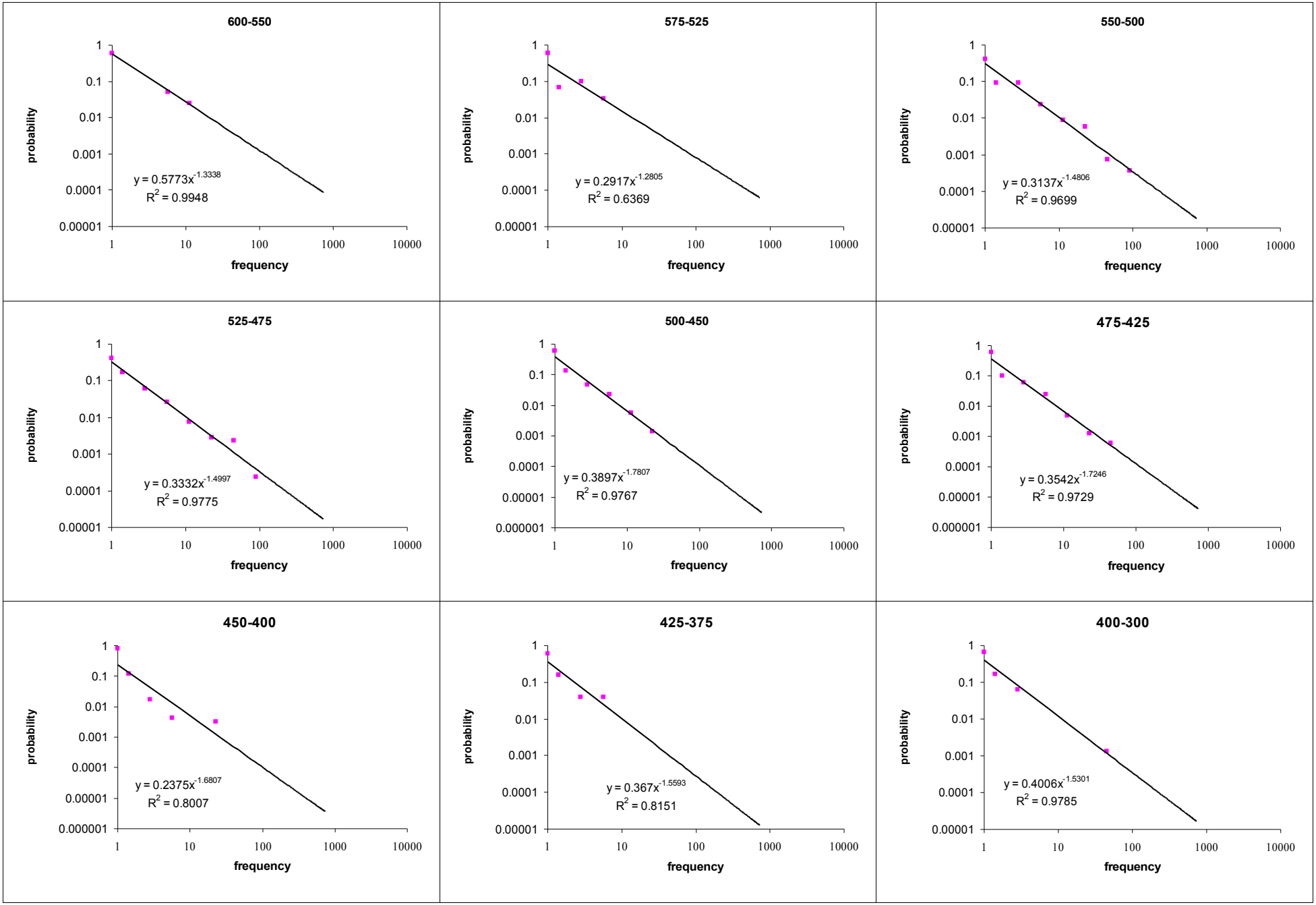
4.2.13 R squared comparison, model and data



4.2.14 Power laws by date, black-figure skyphos

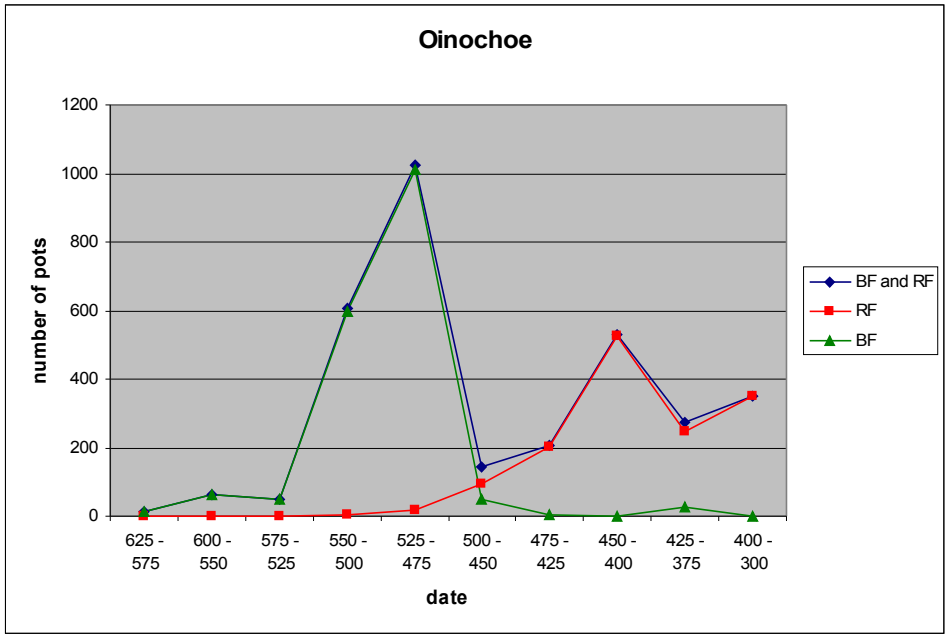


4.2.15 Power laws by date, red-figure skyphos

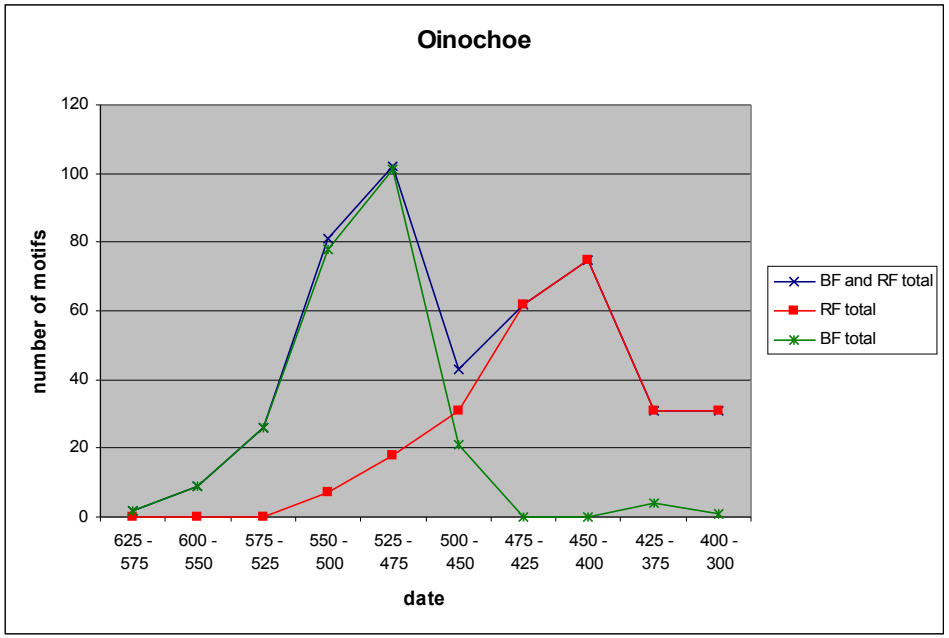


4.2.16 Power laws by date, black-figure and red-figure skyphos

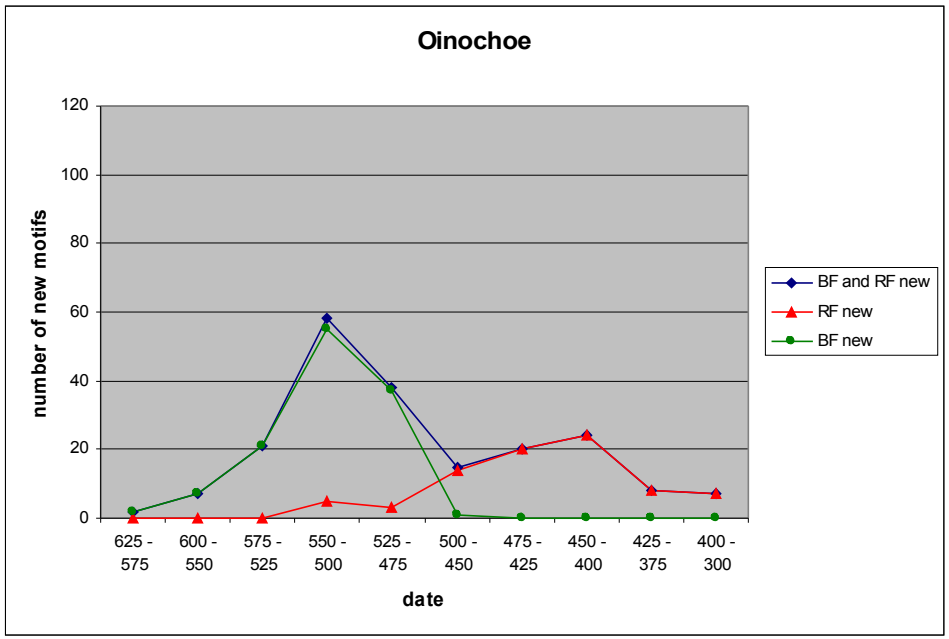
Figures Chapter 4.3 Oinochoe



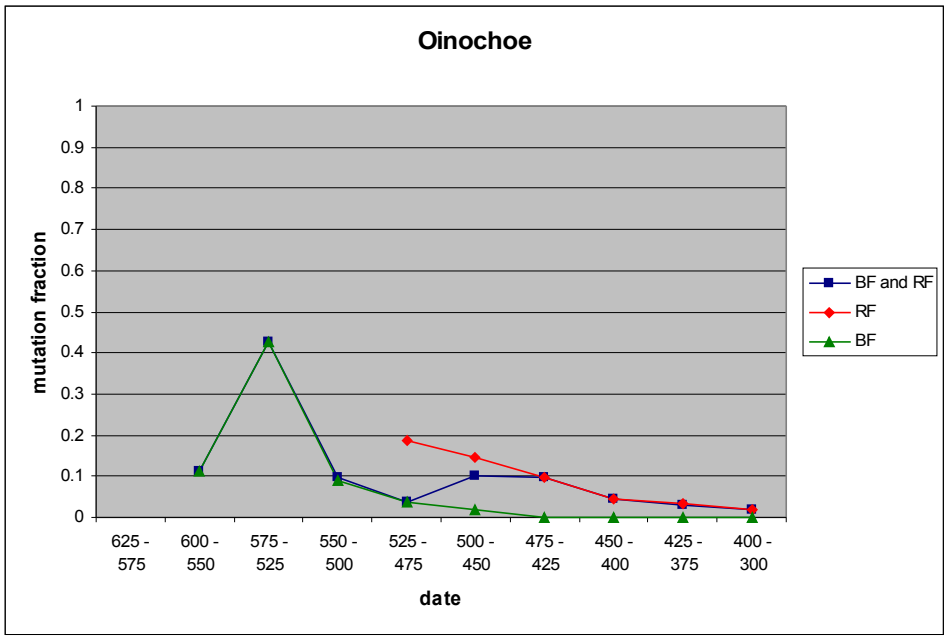
4.3.1 Sample size over time



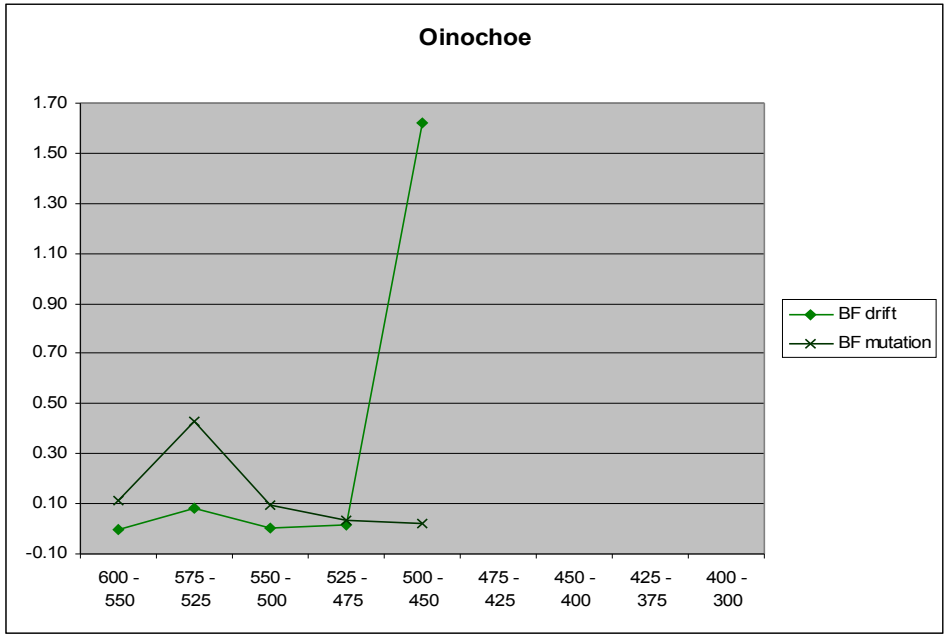
4.3.2 Motifs over time



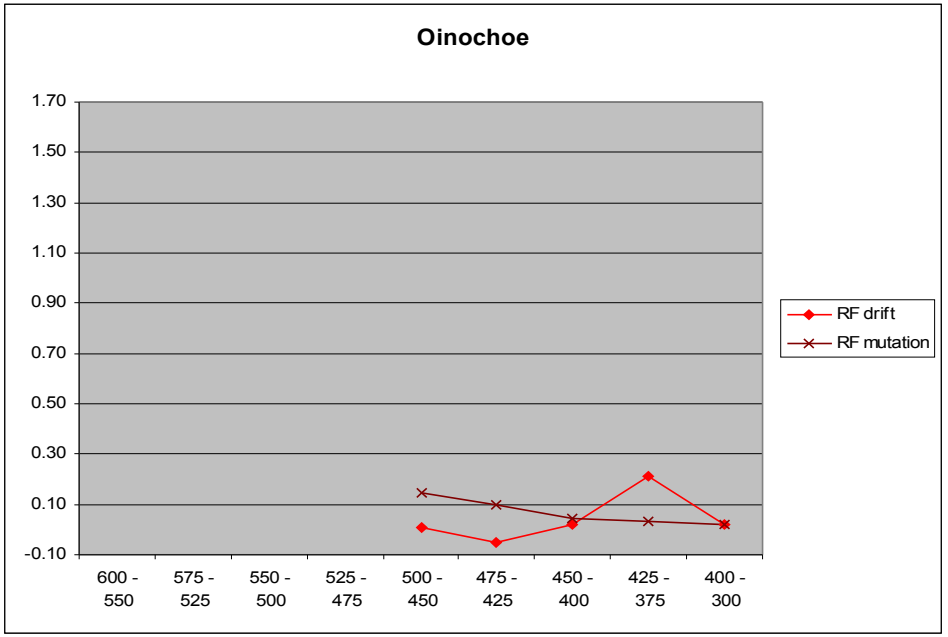
4.3.3 New motifs over time



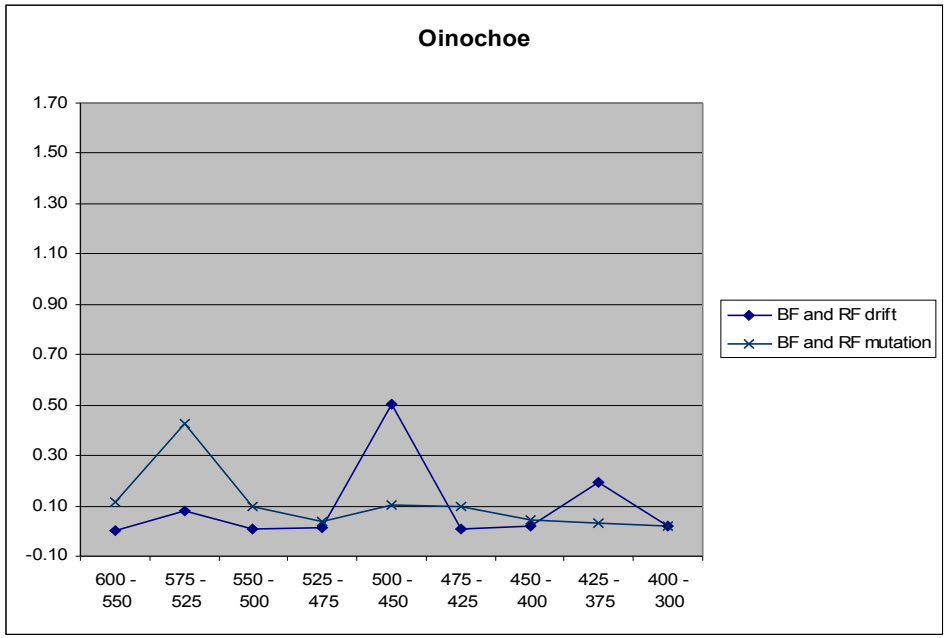
4.3.4 Mutation over time



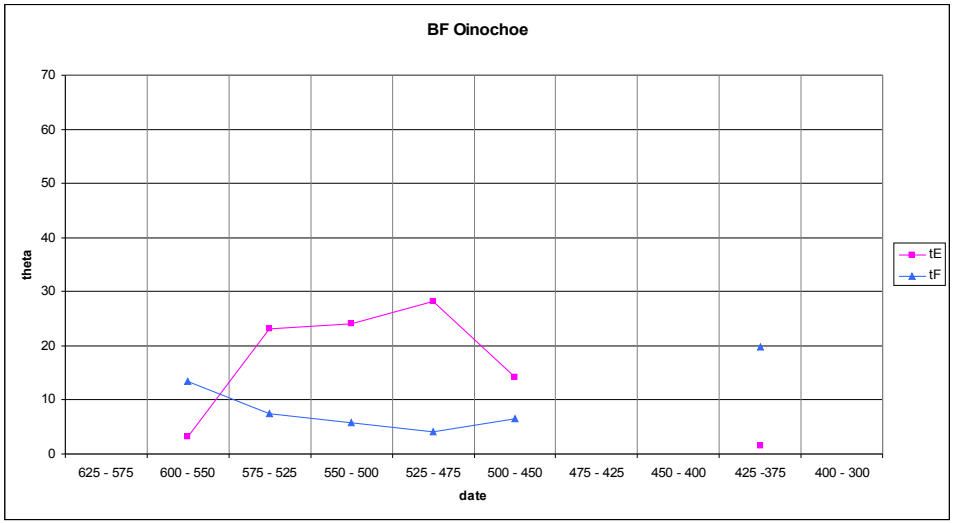
4.3.5 Drift and mutation over time, black-figure



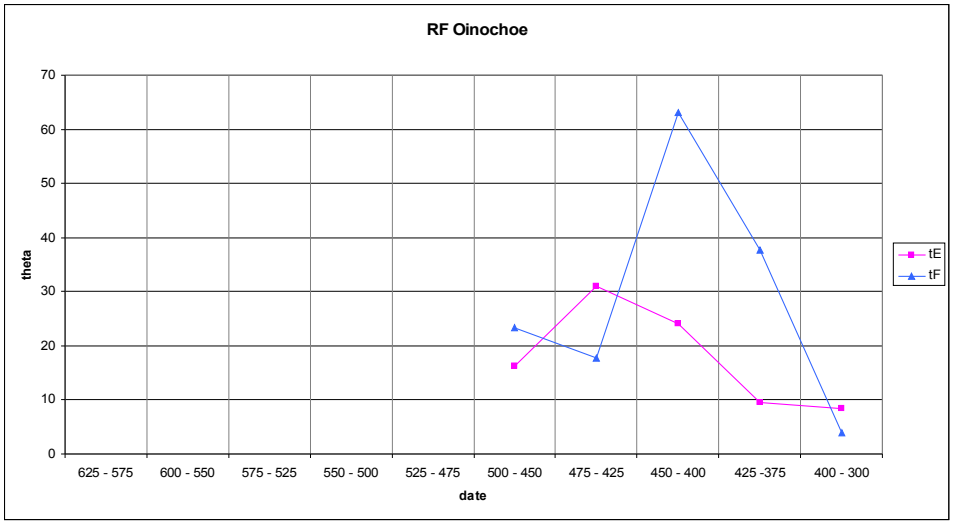
4.3.6 Drift and mutation over time, red-figure



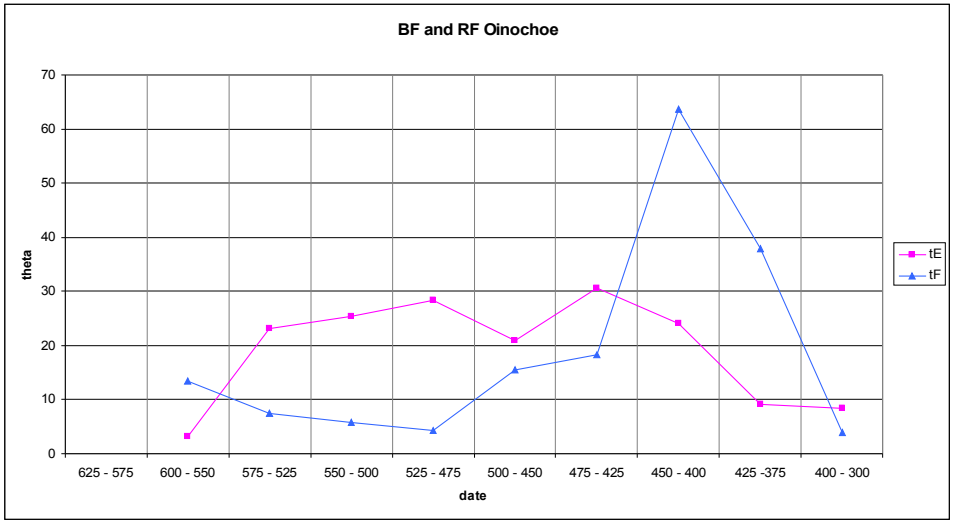
4.3.7 Drift and mutation over time, black-figure and red-figure



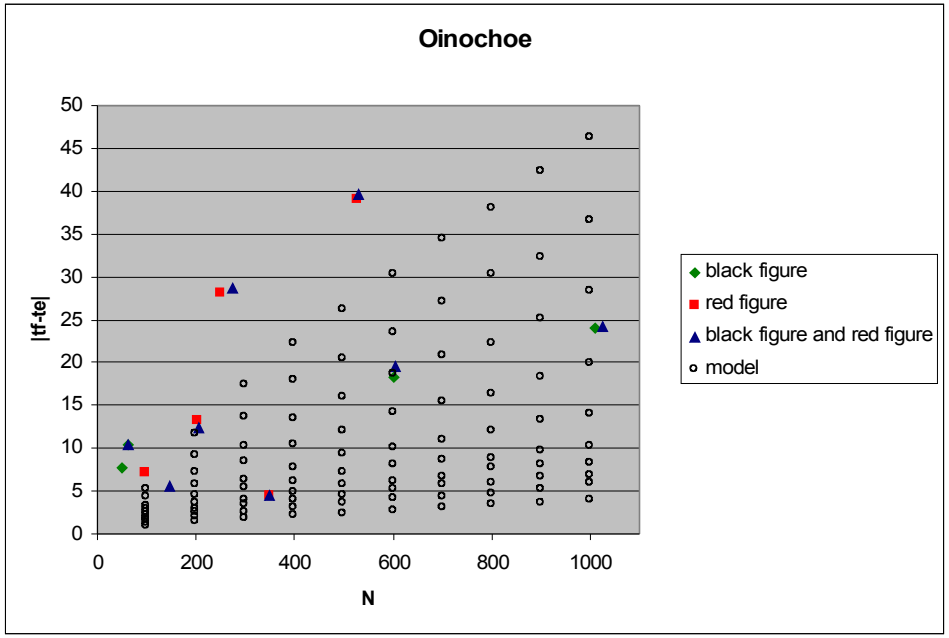
4.3.8 Estimates of theta over time, black-figure



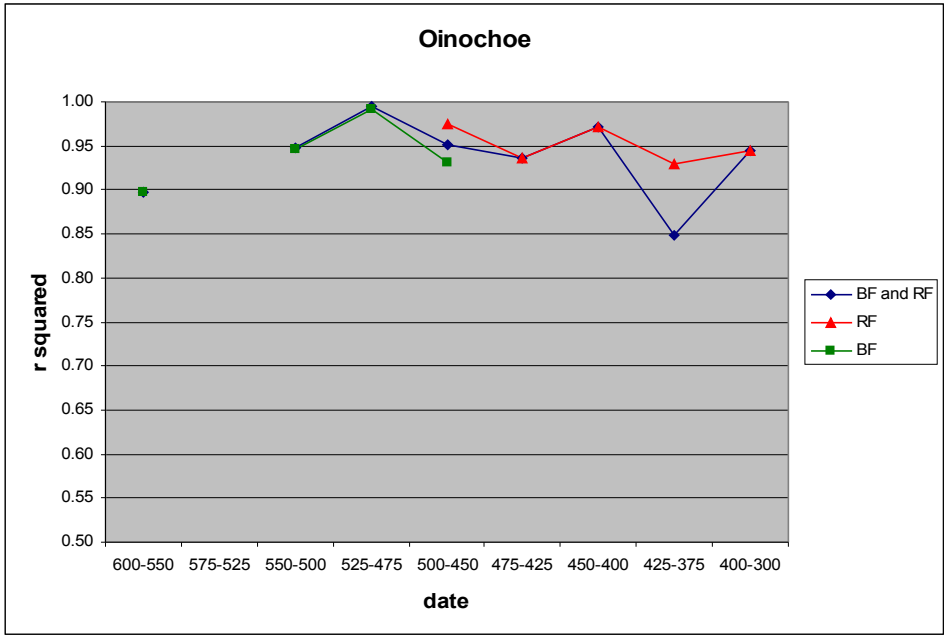
4.3.9 Estimates of theta over time, red-figure



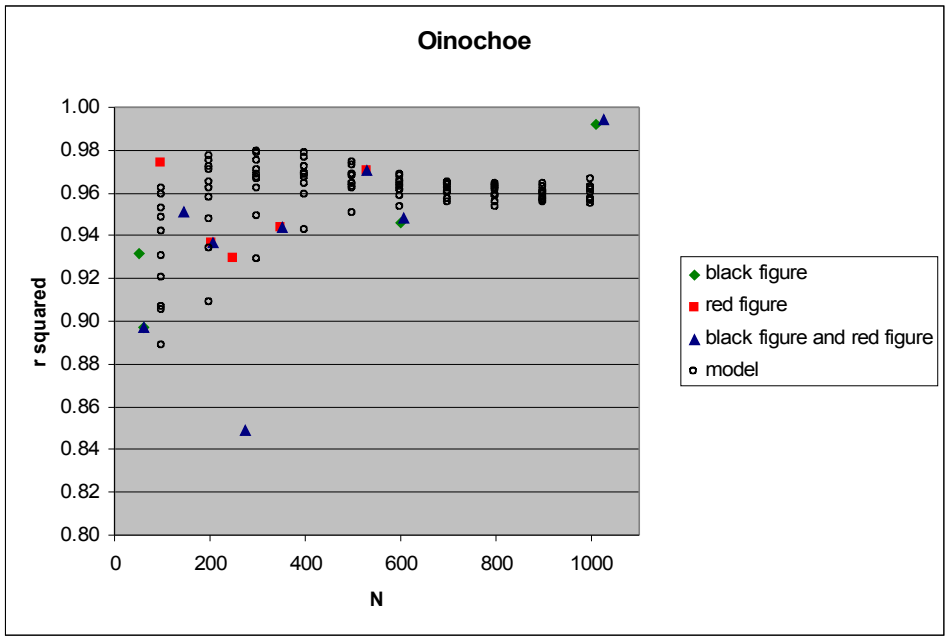
4.3.10 Estimates of theta over time, black-figure and red-figure



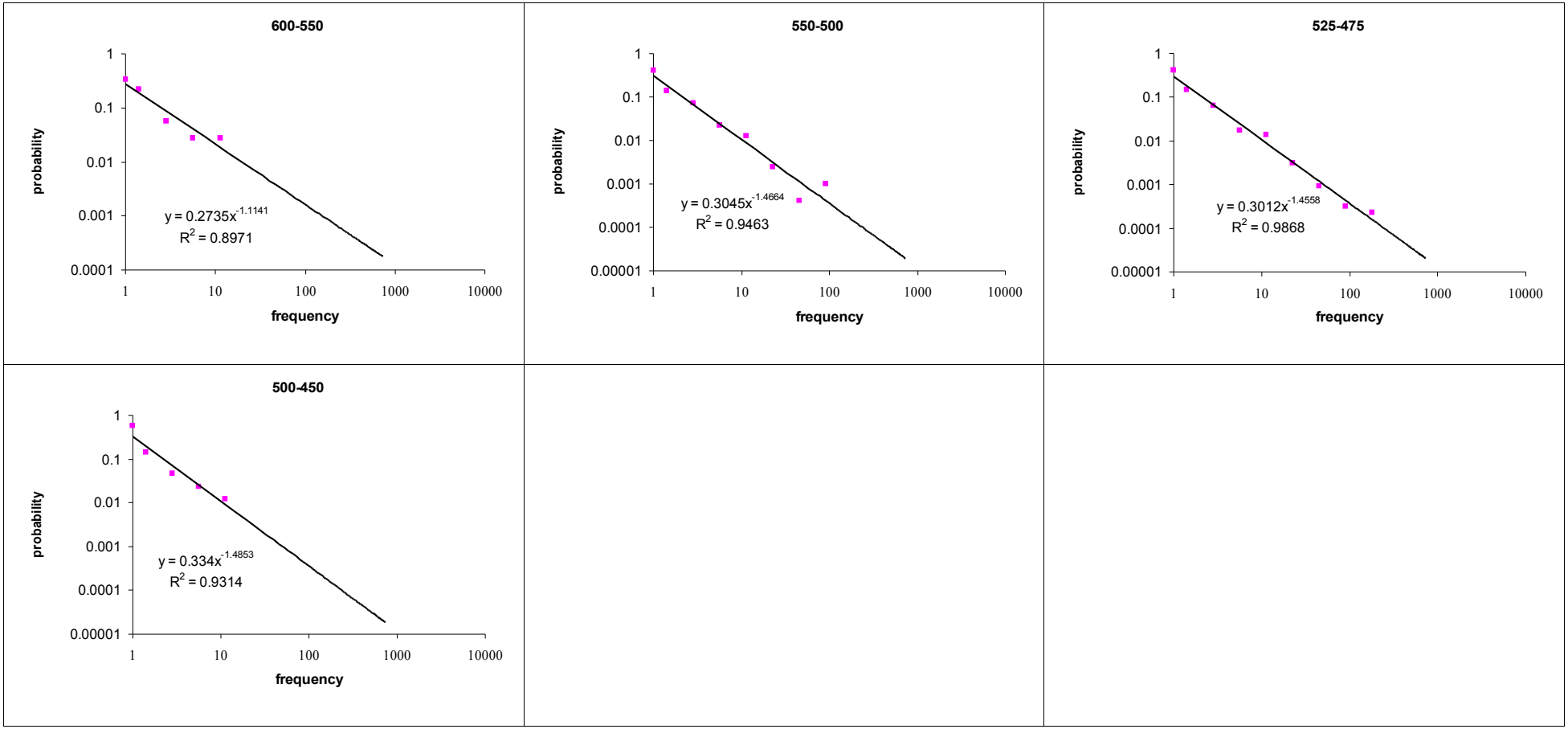
4.3.11 |tf-te| comparison, model and data



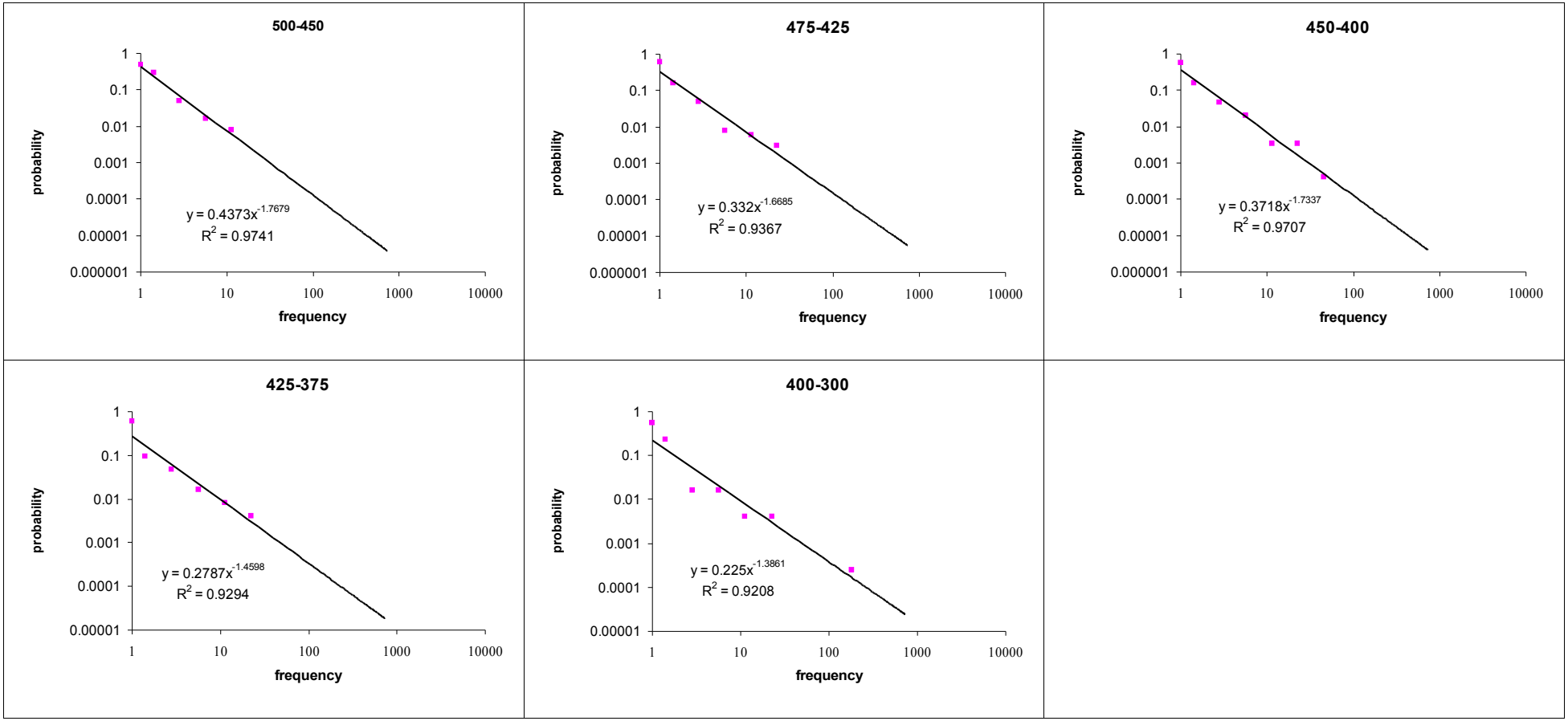
4.3.12 R squared values over time



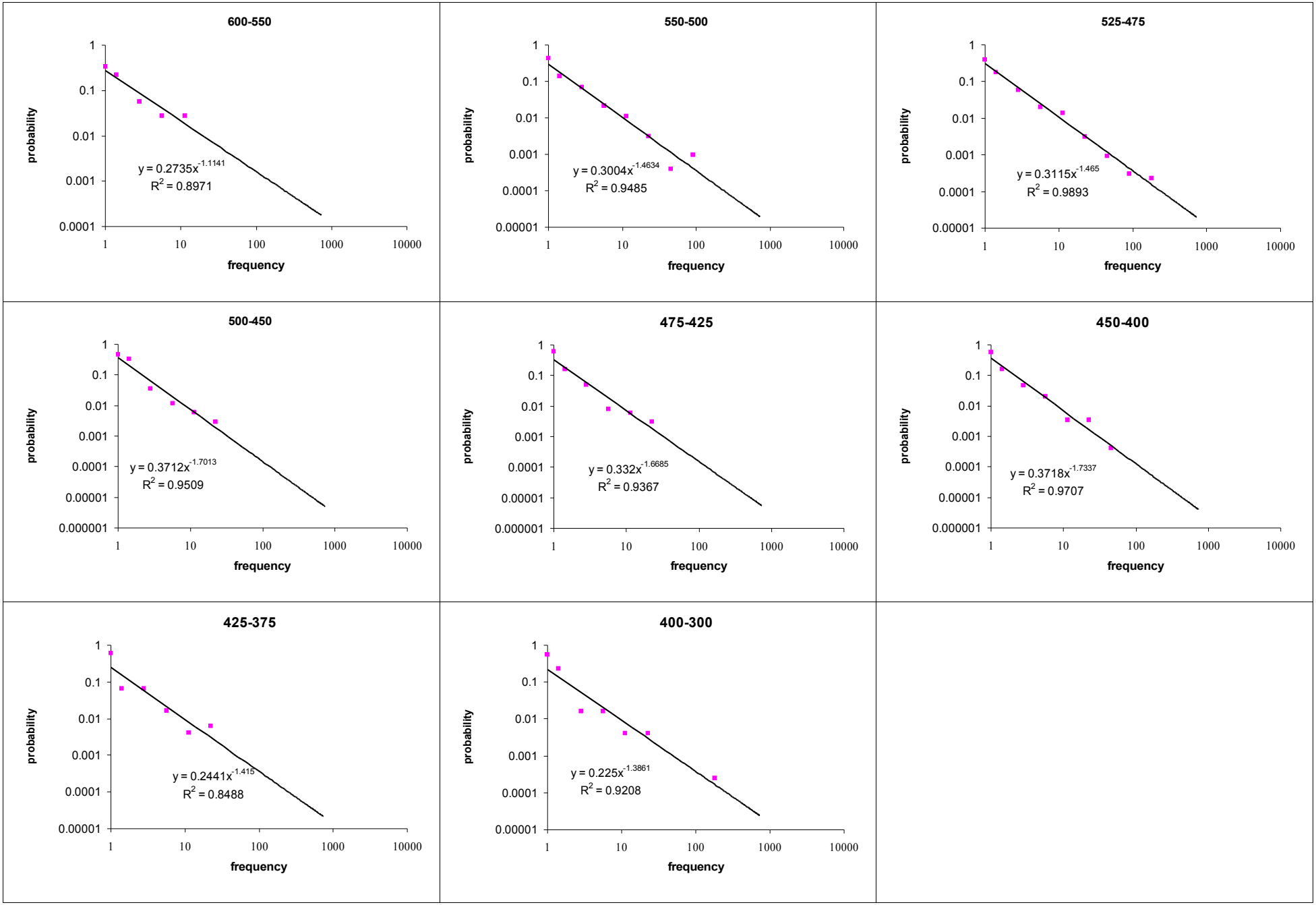
4.3.13 R squared comparison, model and data



4.3.14 Power laws by date, black-figure oinochoe

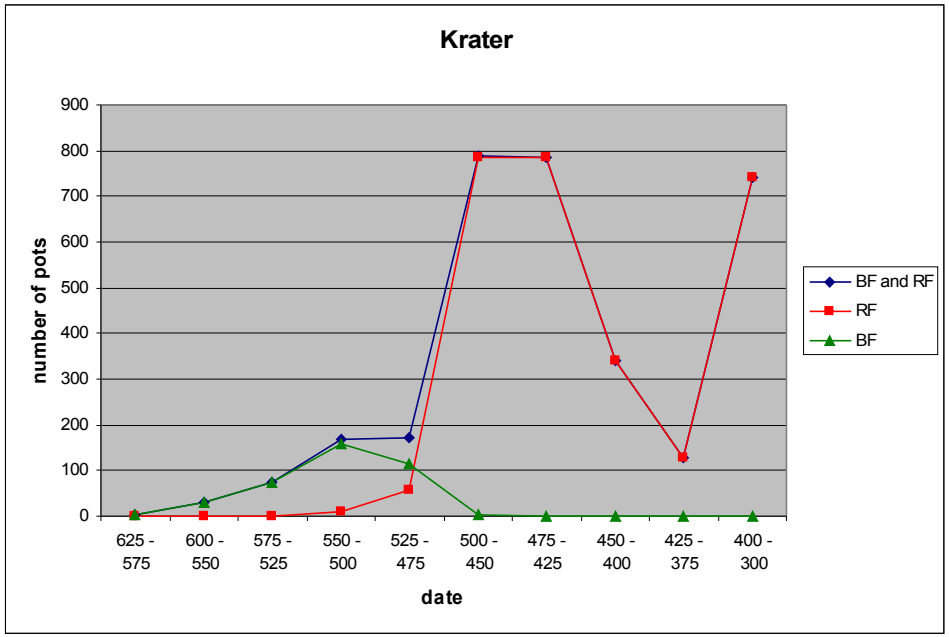


4.3.15 Power laws by date, red-figure oinochoe

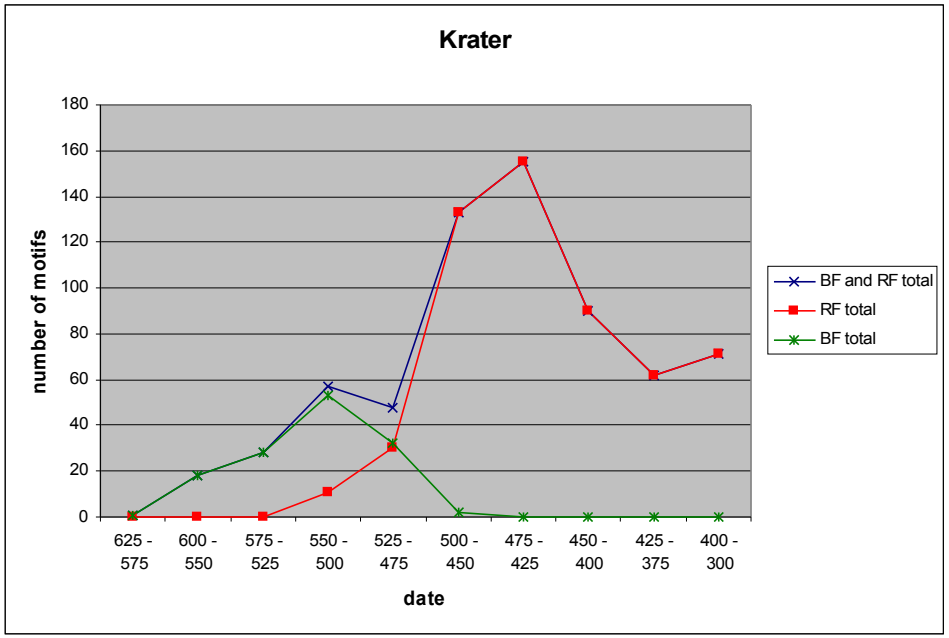


4.3.16 Power laws by date, black-figure and red-figure oinochoe

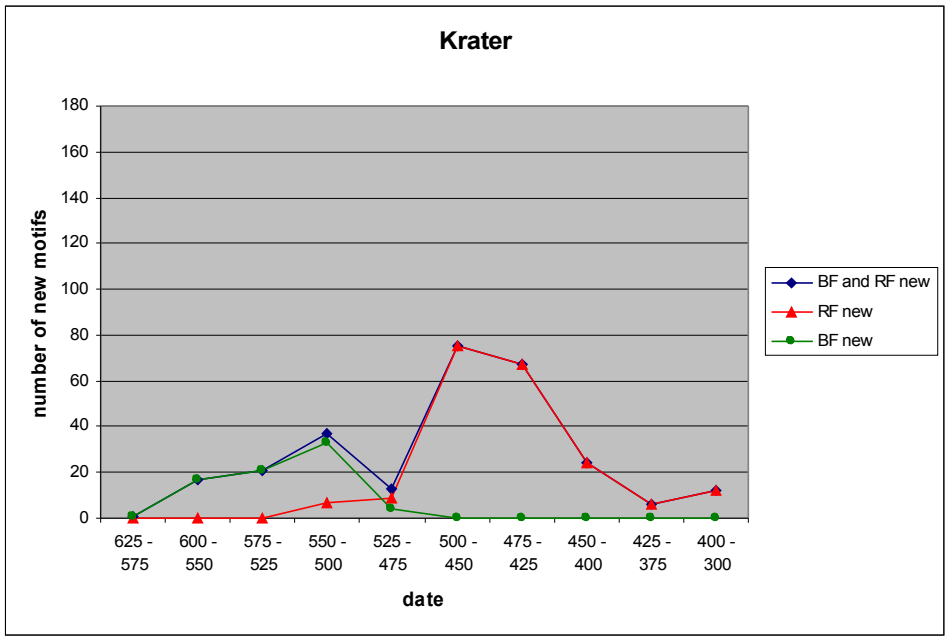
Figures Chapter 4.4 Krater



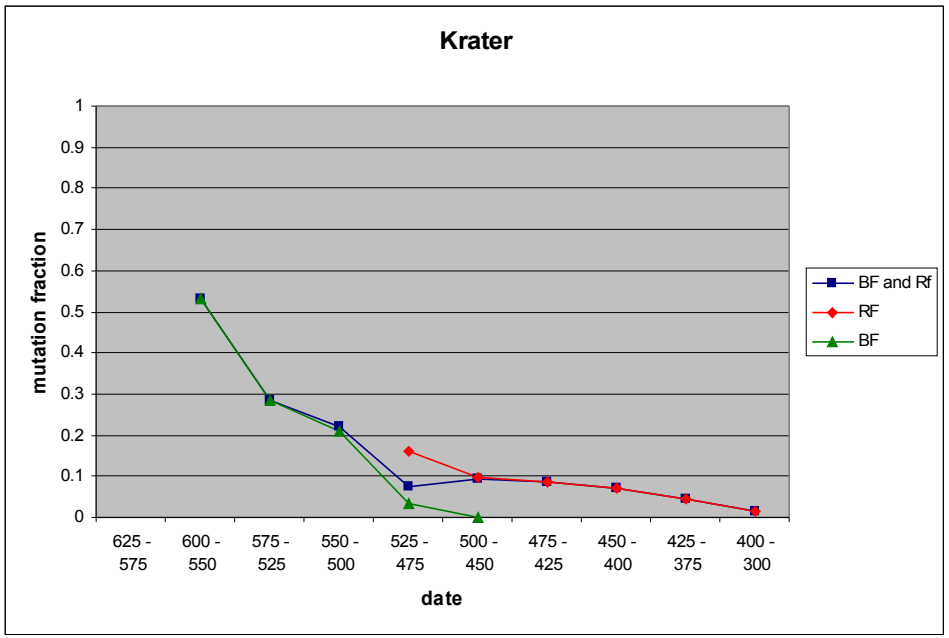
4.4.1 Sample size over time



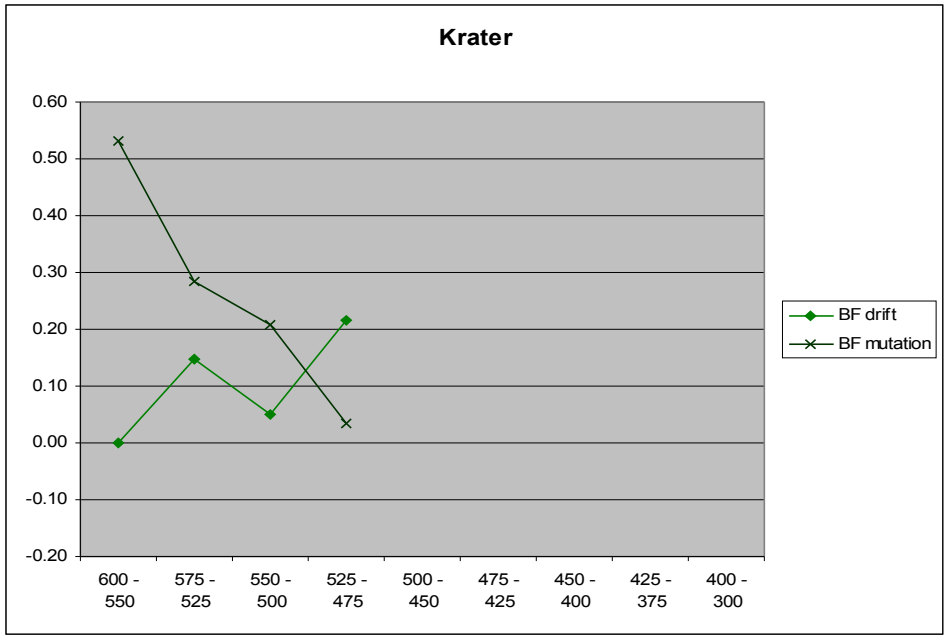
4.4.2 Motifs over time



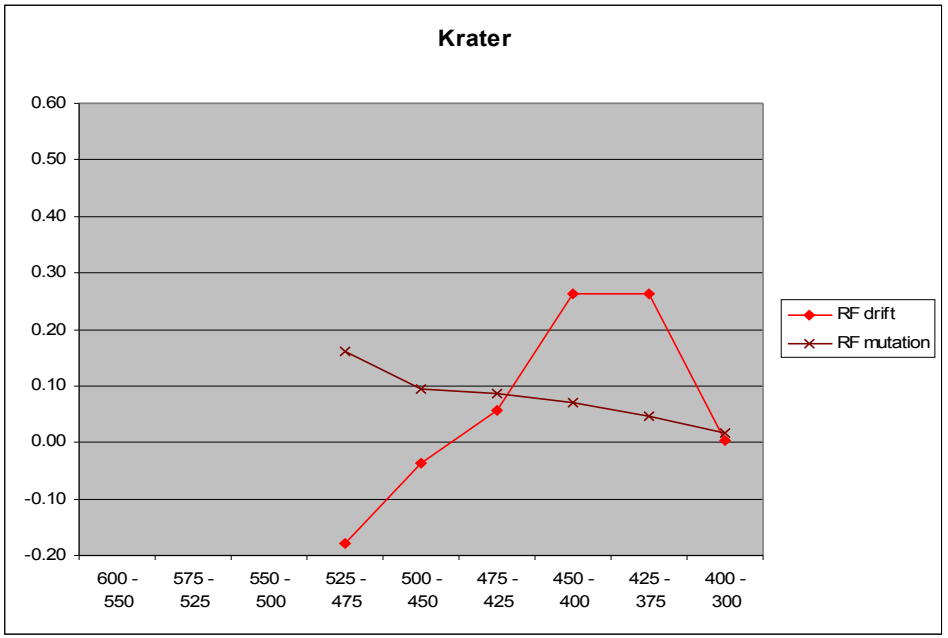
4.4.3 Sample size over time



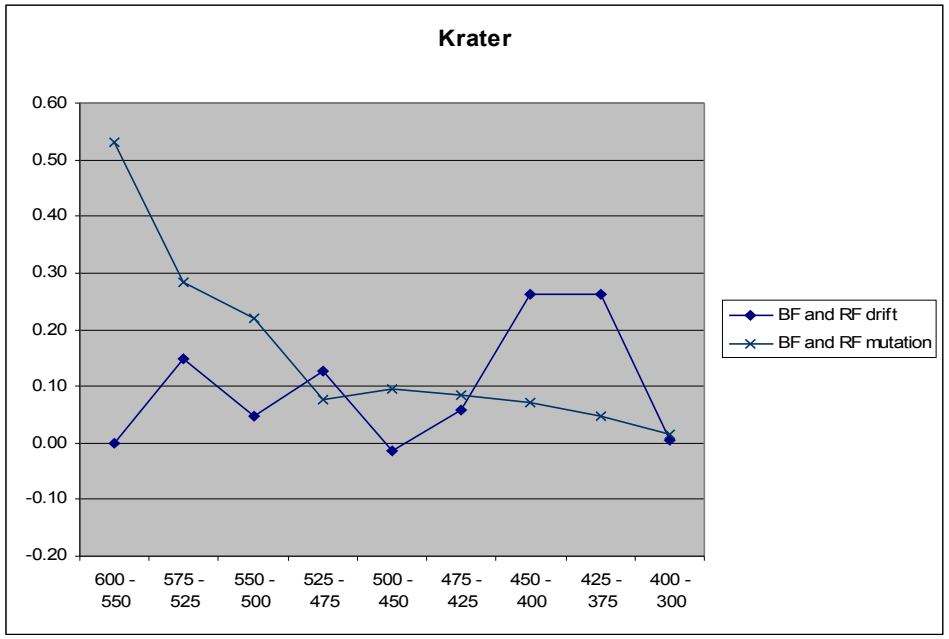
4.4.4 Mutation over time



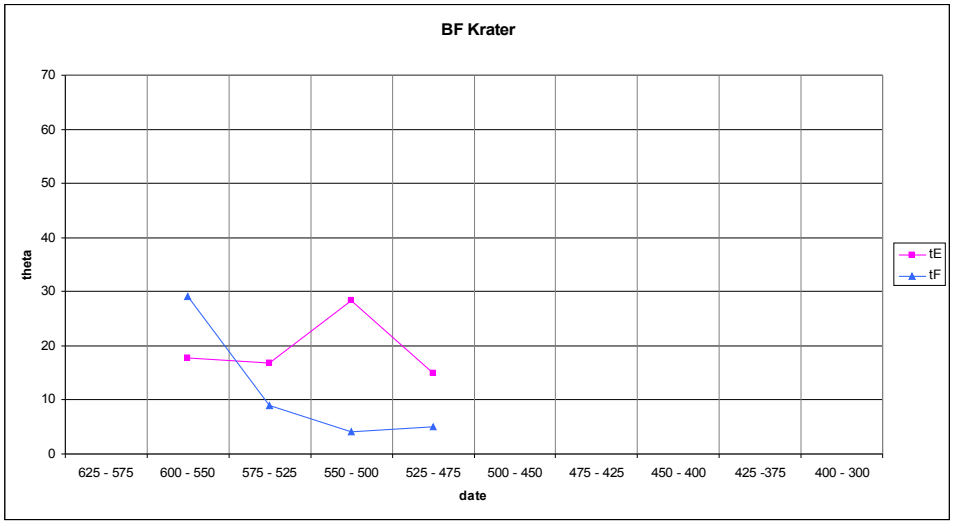
4.4.5 Drift and mutation over time, black-figure



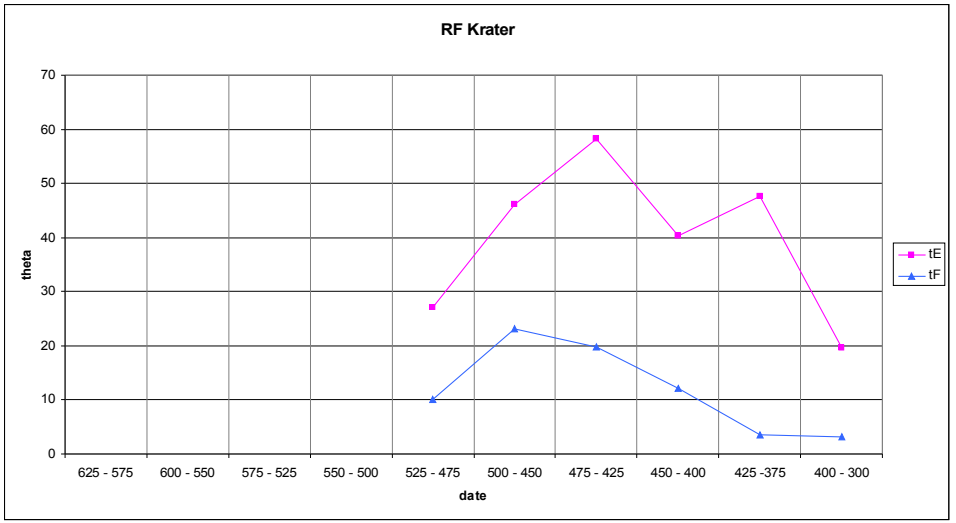
4.4.6 Drift and mutation over time, red-figure



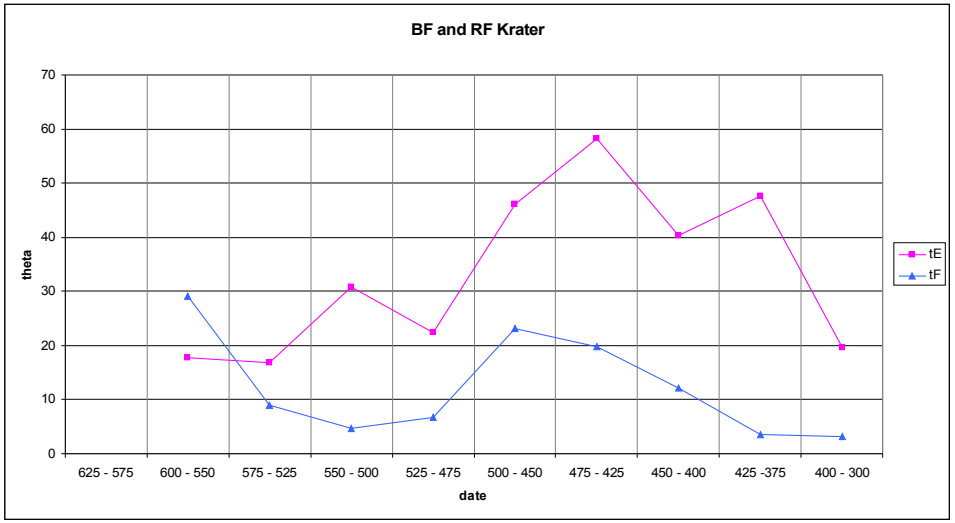
4.4.7 Drift and mutation over time, black-figure and red-figure



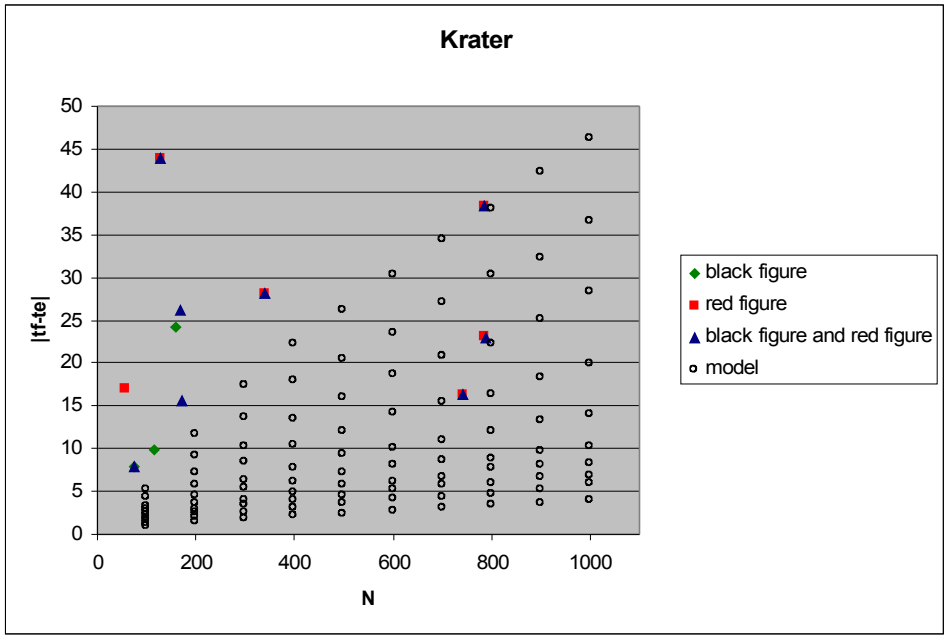
4.4.8 Estimates of theta over time, black-figure



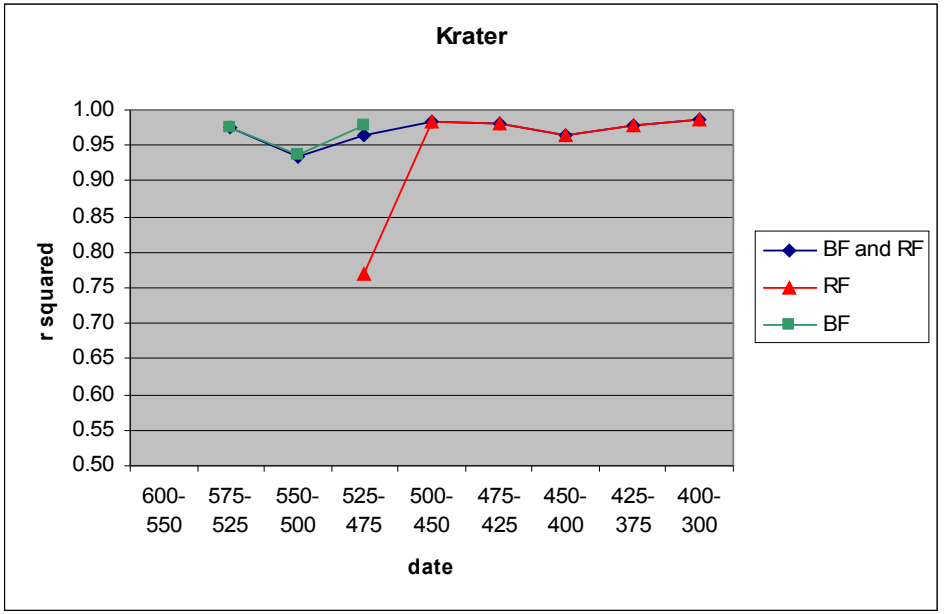
4.4.9 Estimates of theta over time, red-figure



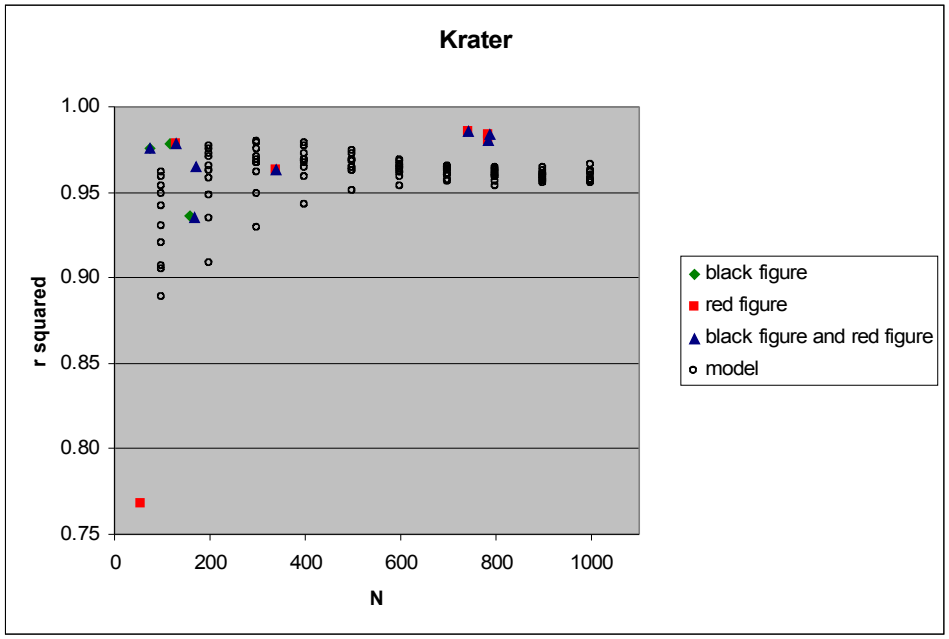
4.4.10 Estimates of theta over time, black-figure and red-figure



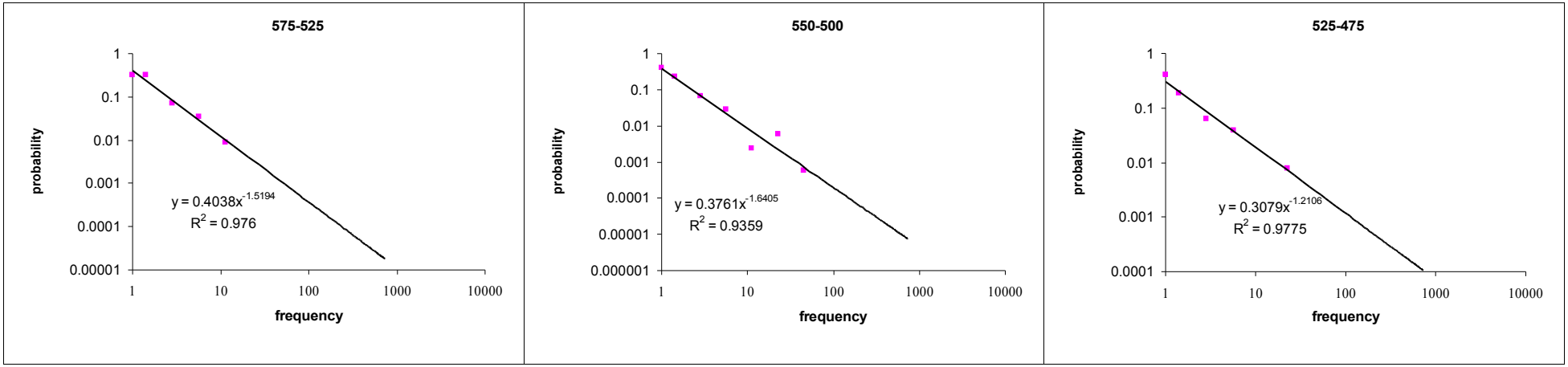
4.4.11 |tf-te| comparison, model and data



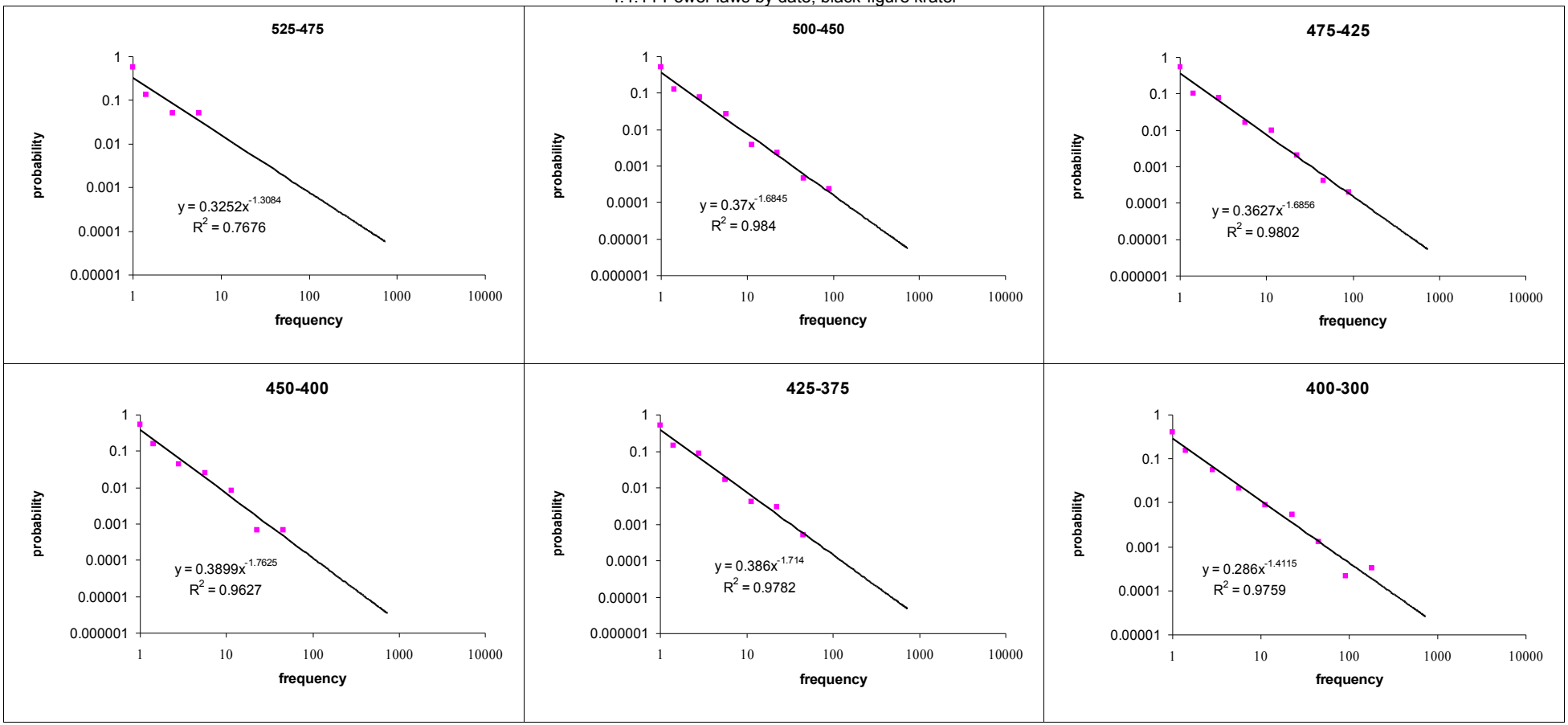
4.4.12 R squared values over time



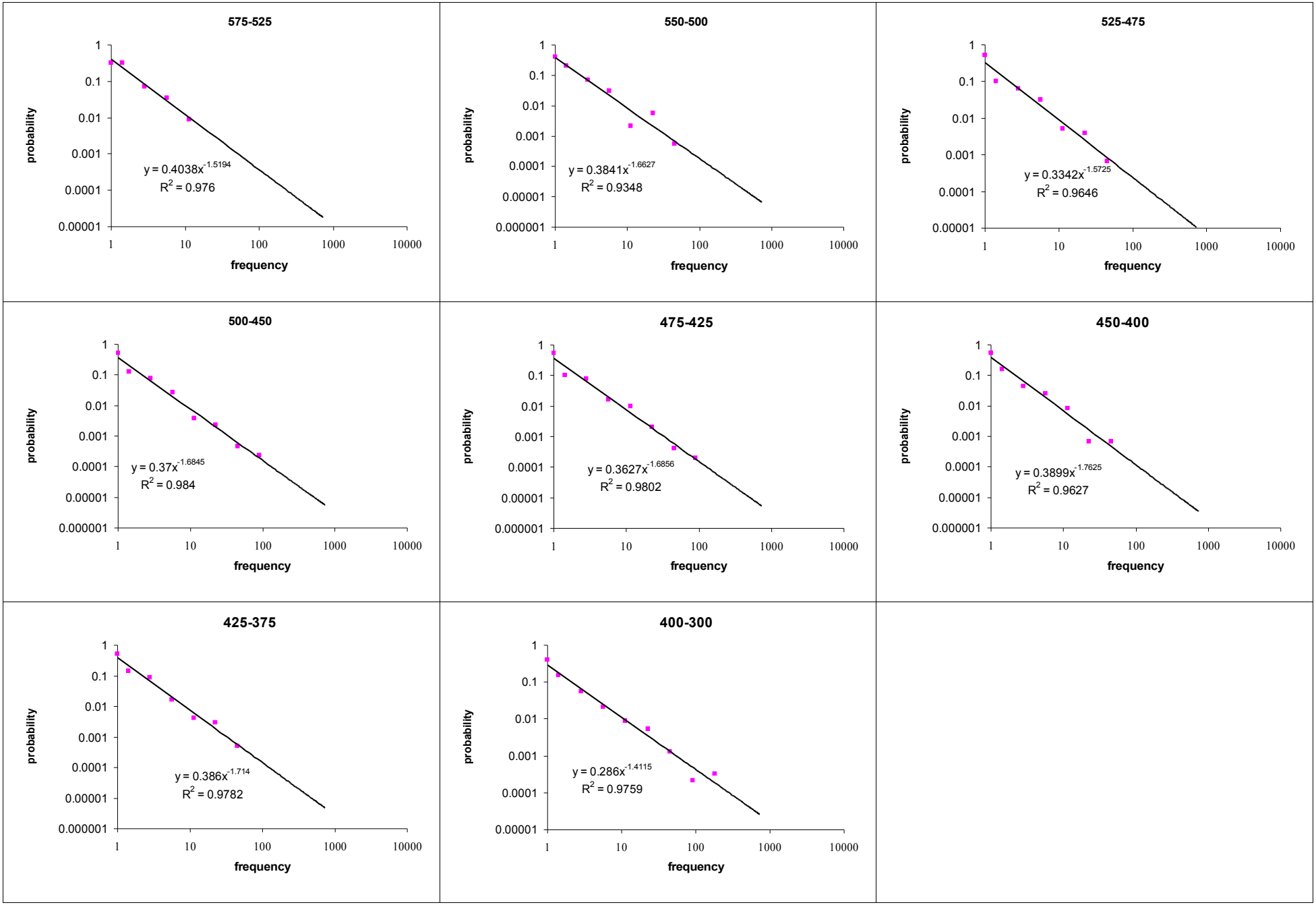
4.4.13 R squared comparison, model and data



4.4.14 Power laws by date, black-figure krater

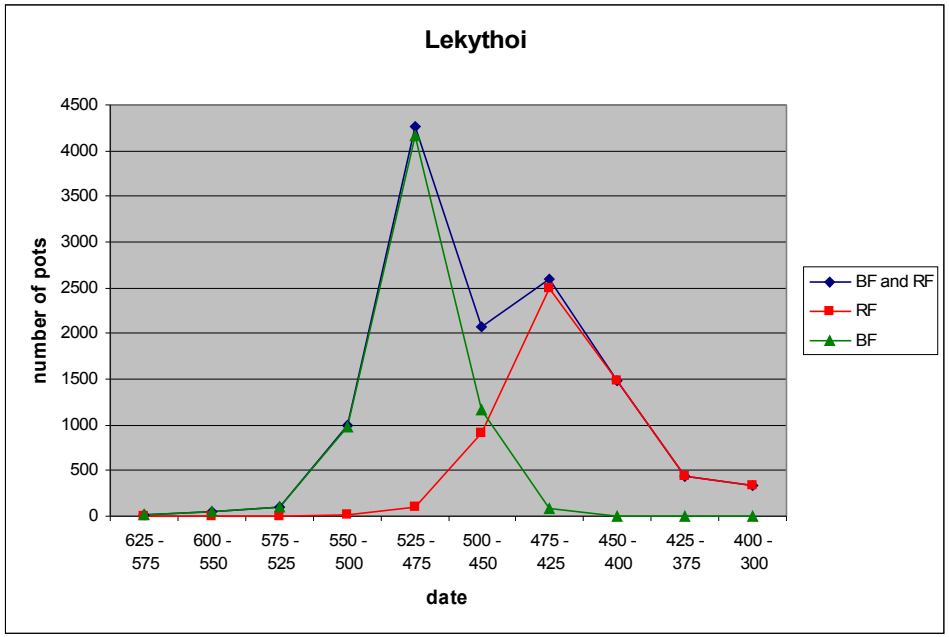


4.4.15 Power laws by date, red-figure krater

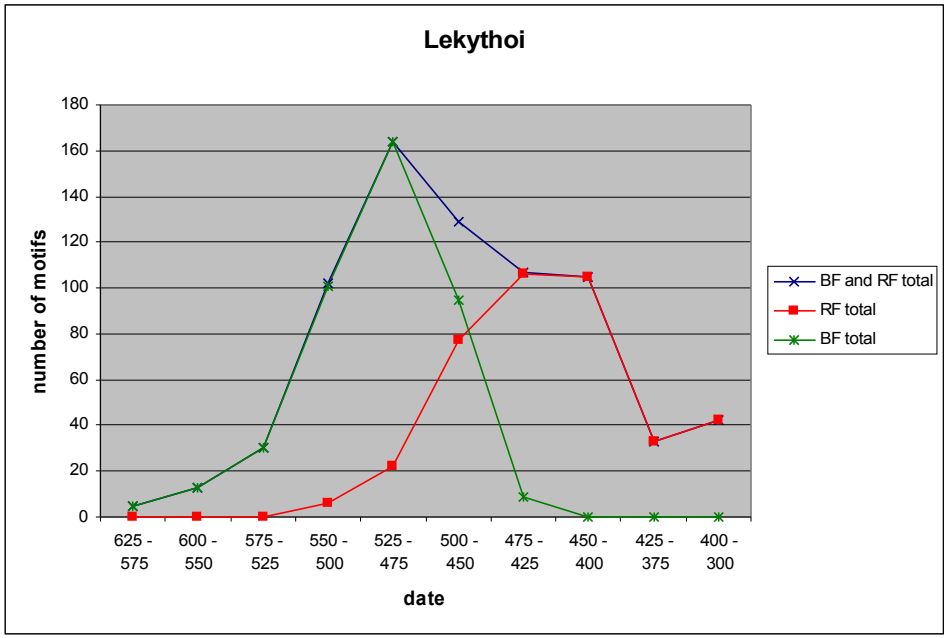


4.4.16 Power laws by date, black-figure and red-figure krater

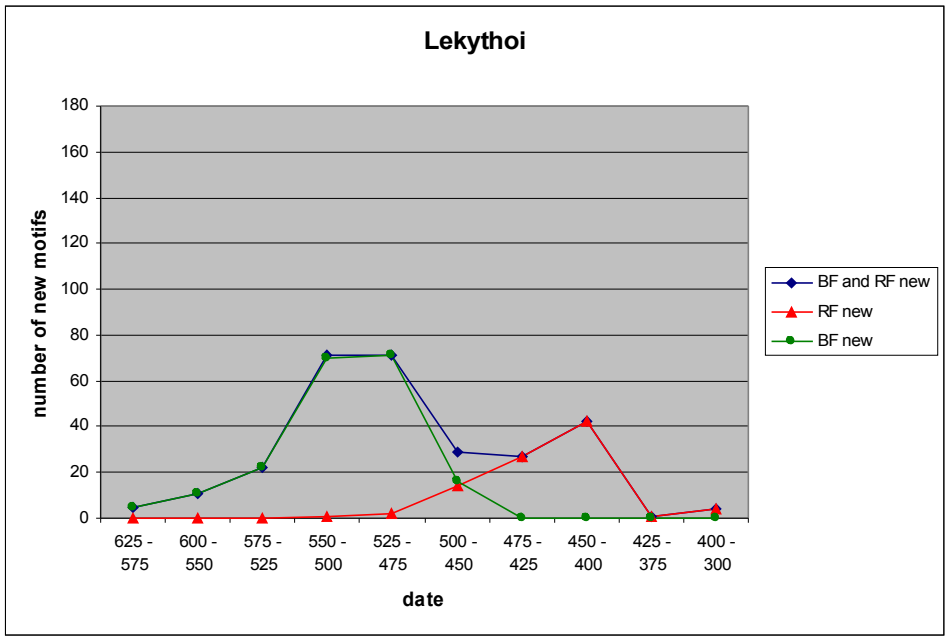
Figures Chapter 4.5 Lekythoi



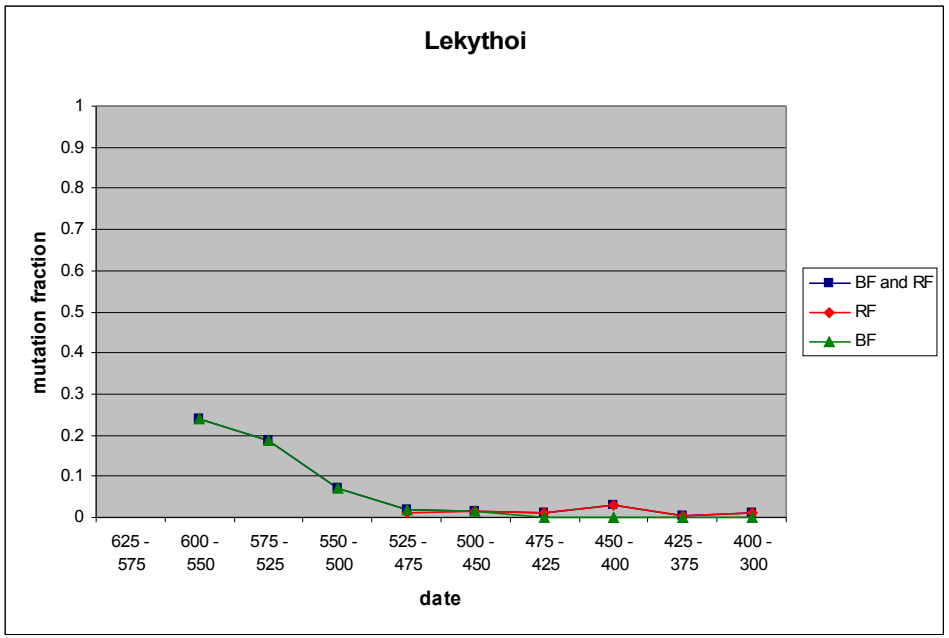
4.5.1 Sample size over time



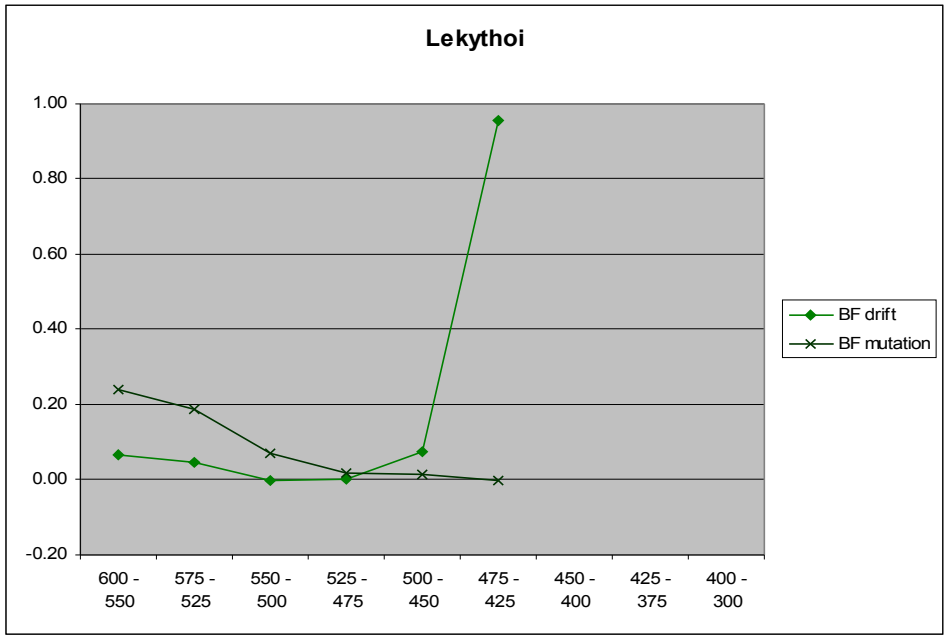
4.5.2 Motifs over time



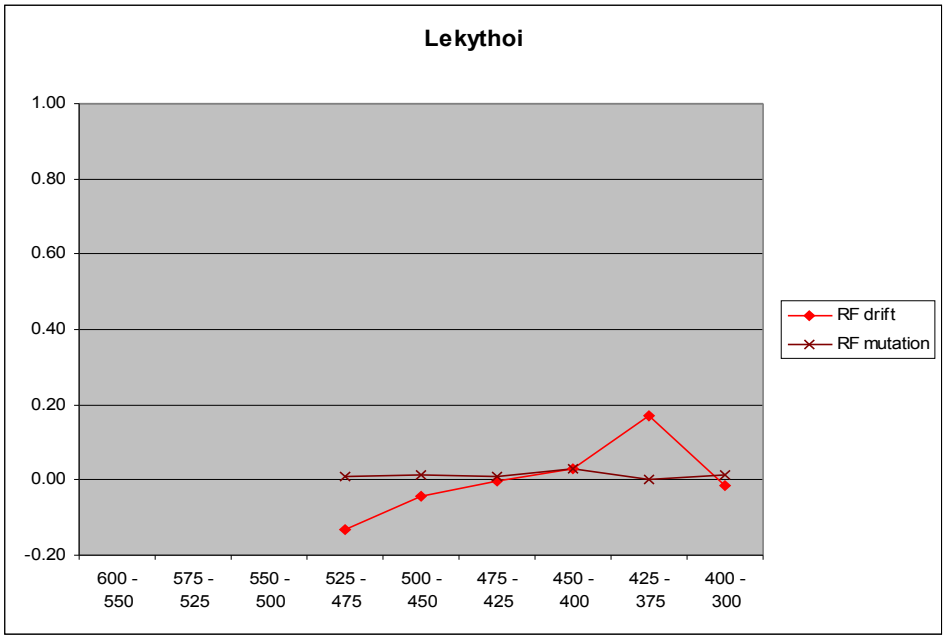
4.5.3 New motifs over time



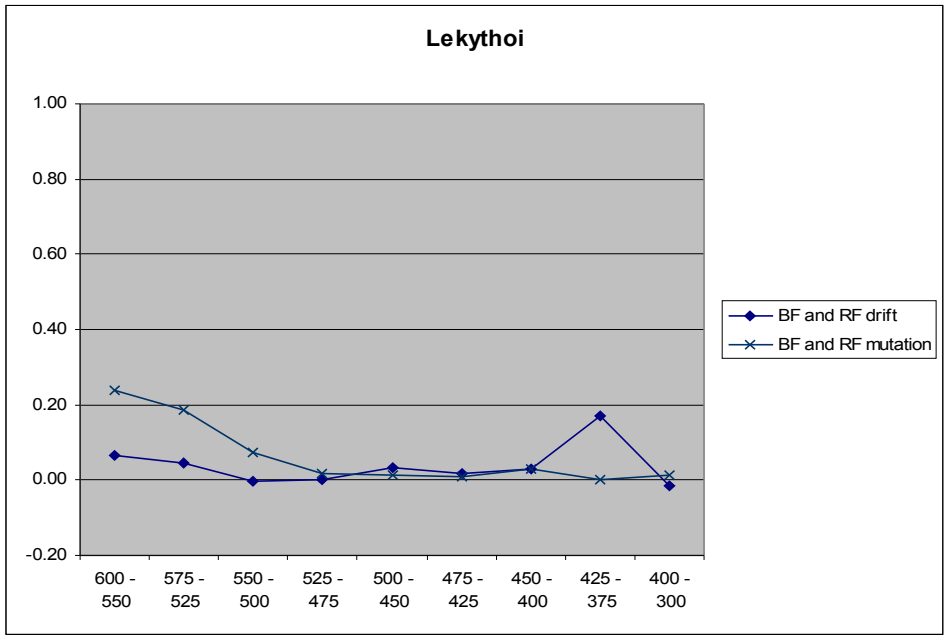
4.5.4 Mutation over time



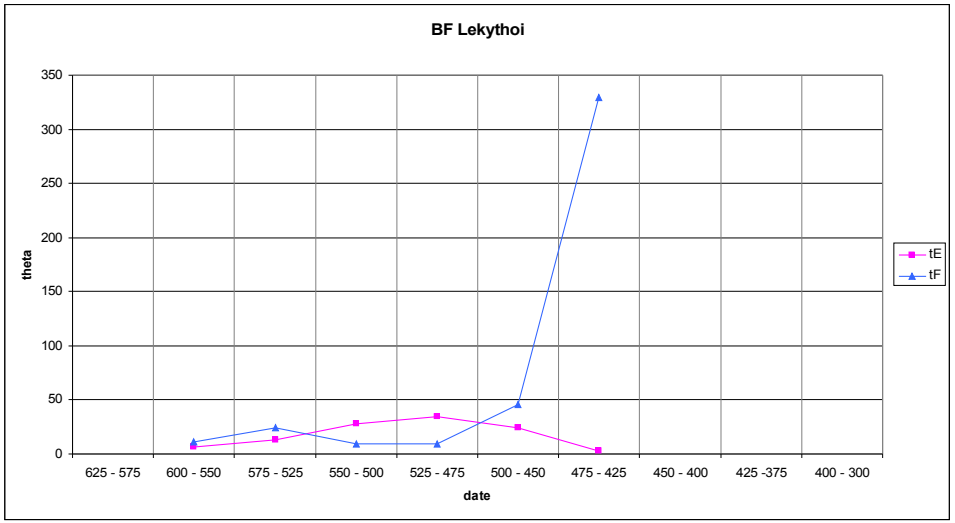
4.5.5 Drift and mutation over time, black-figure



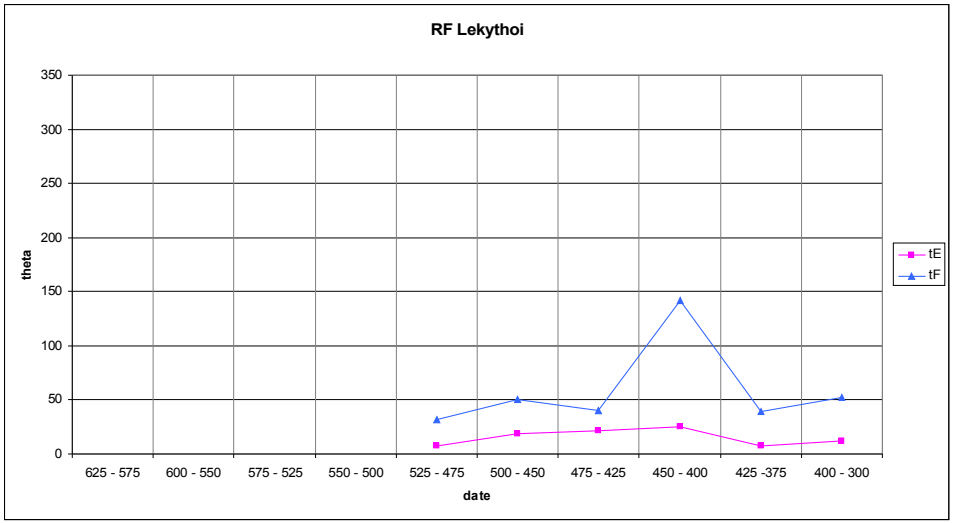
4.5.6 Drift and mutation over time, red-figure



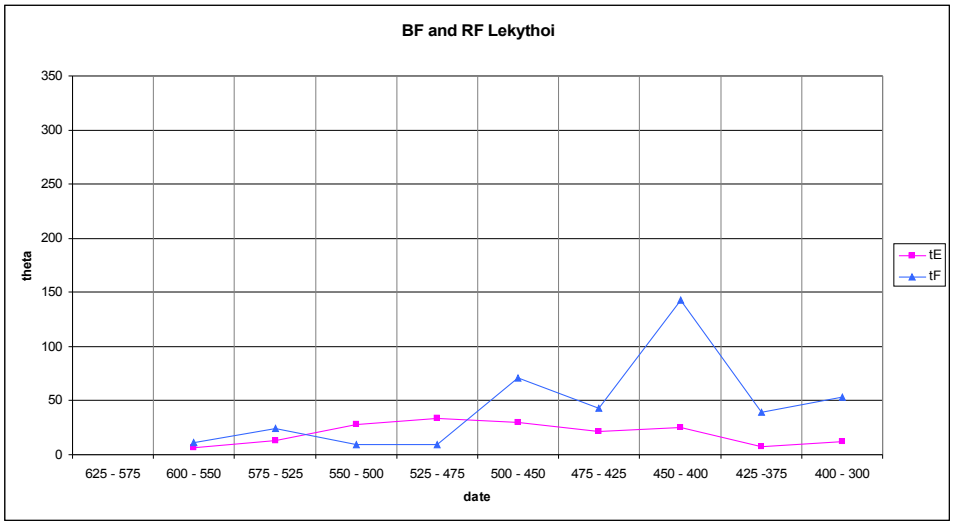
4.5.7 Drift and mutation over time, black-figure and red-figure



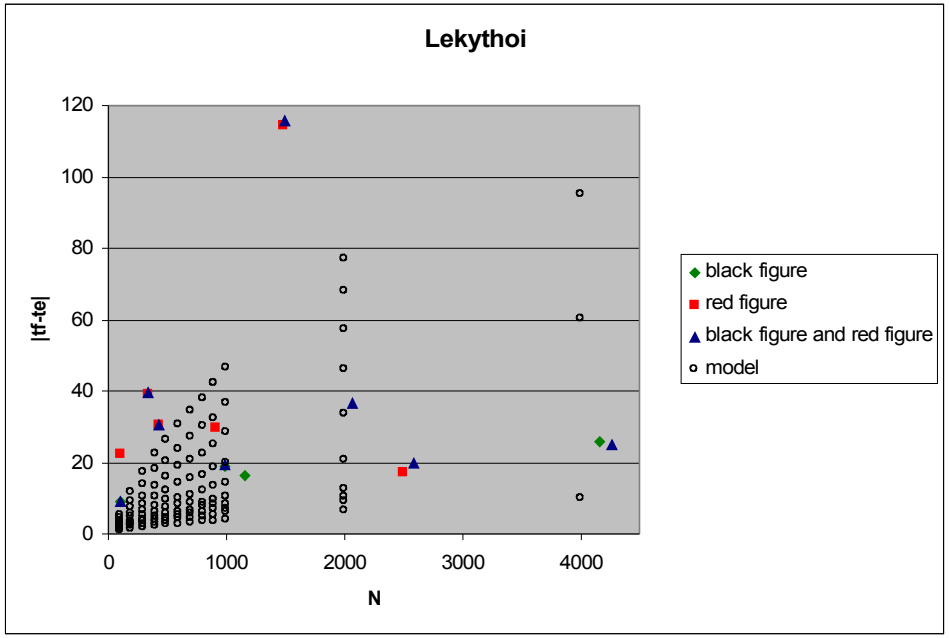
4.5.8 Estimates of theta over time, black-figure



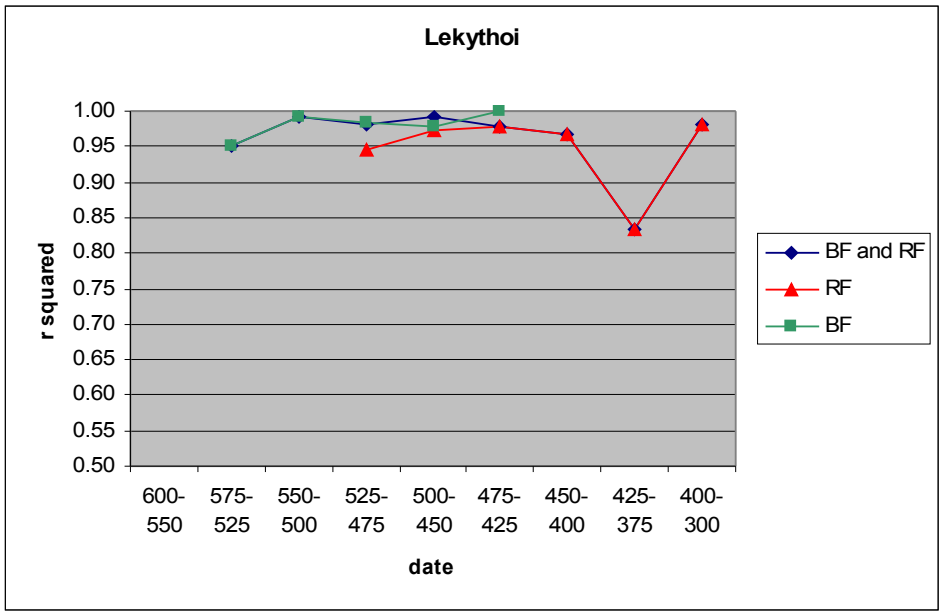
4.5.9 Estimates of theta over time, red-figure



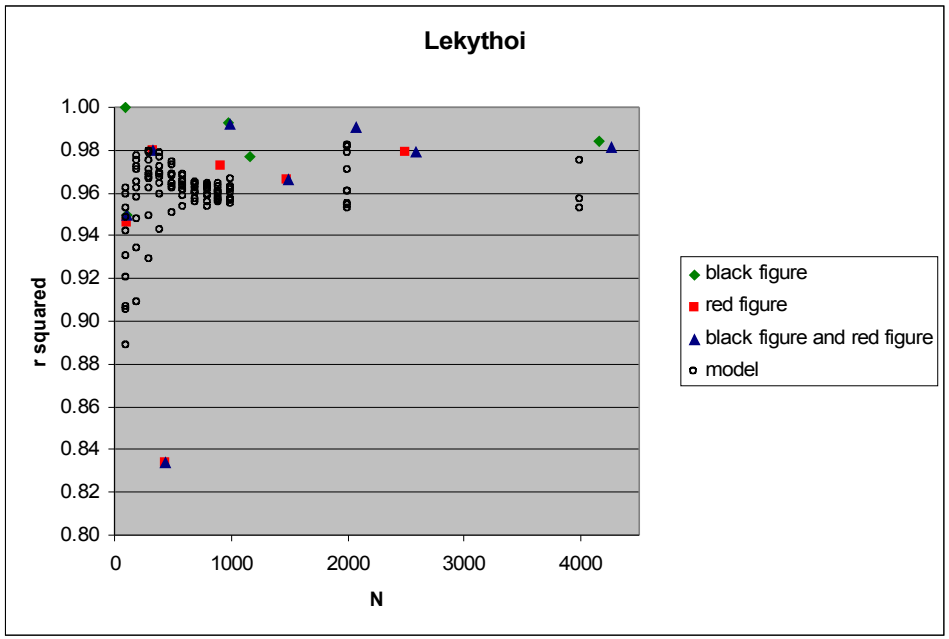
4.5.10 Estimates of theta over time, black-figure and red-figure



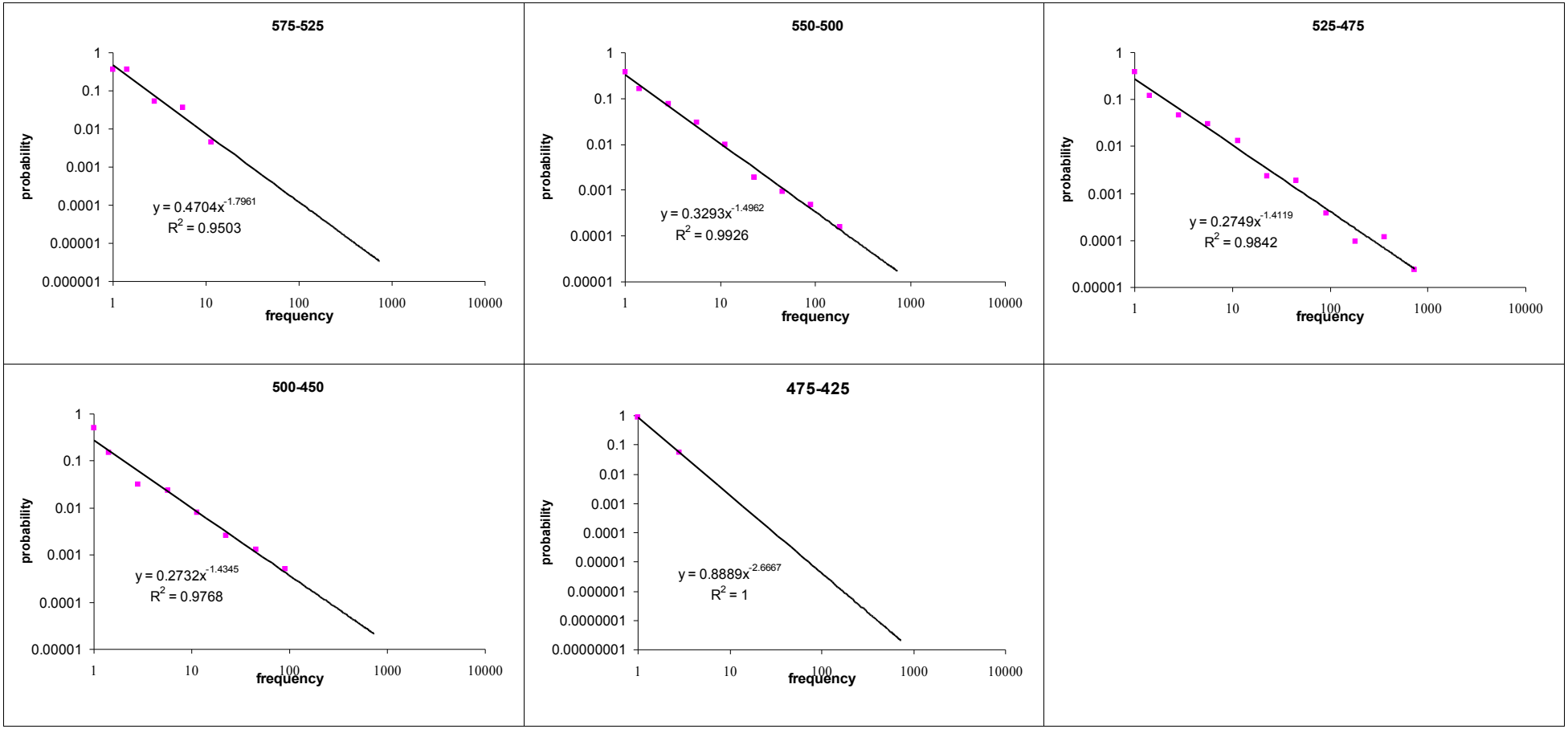
4.5.11 |tf-te| comparison, model and data



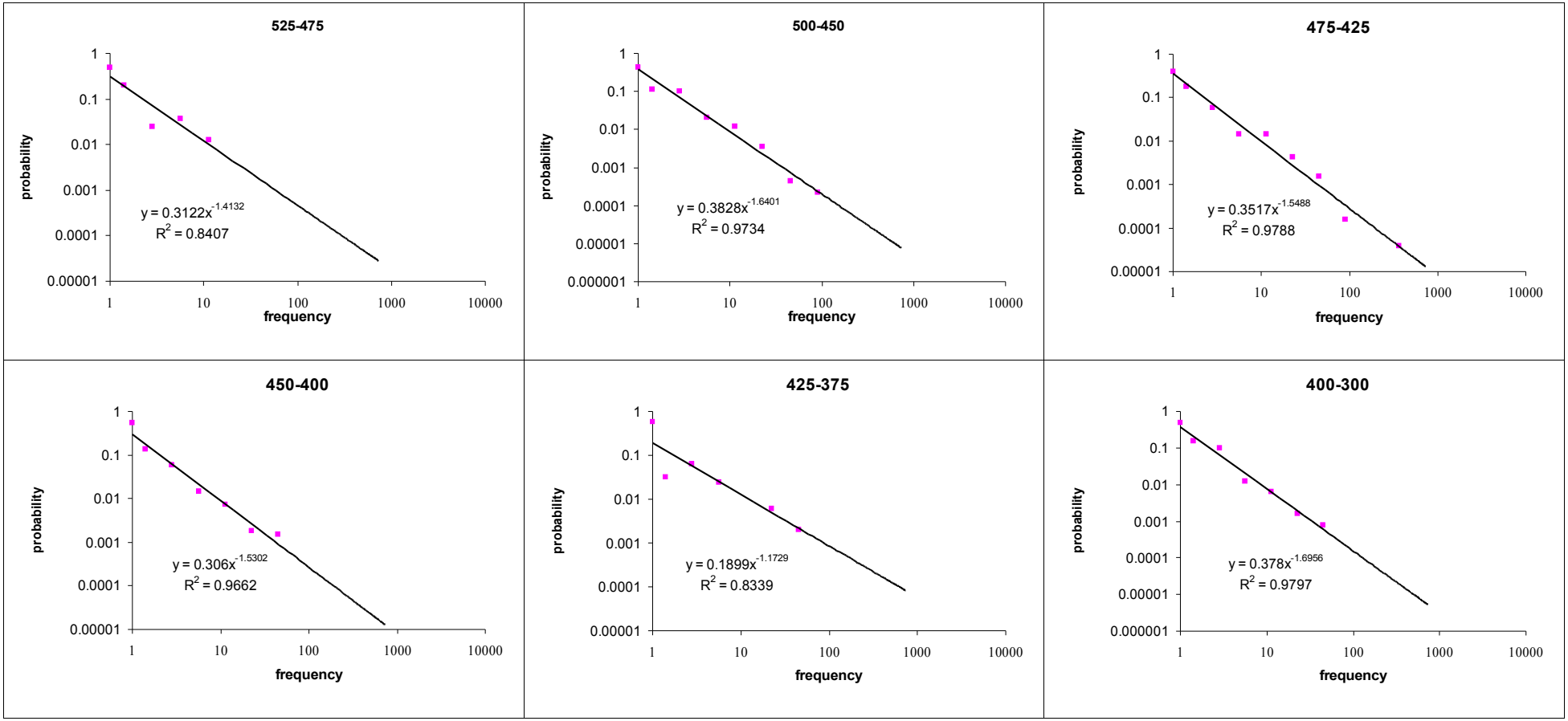
4.5.12 R squared values over time



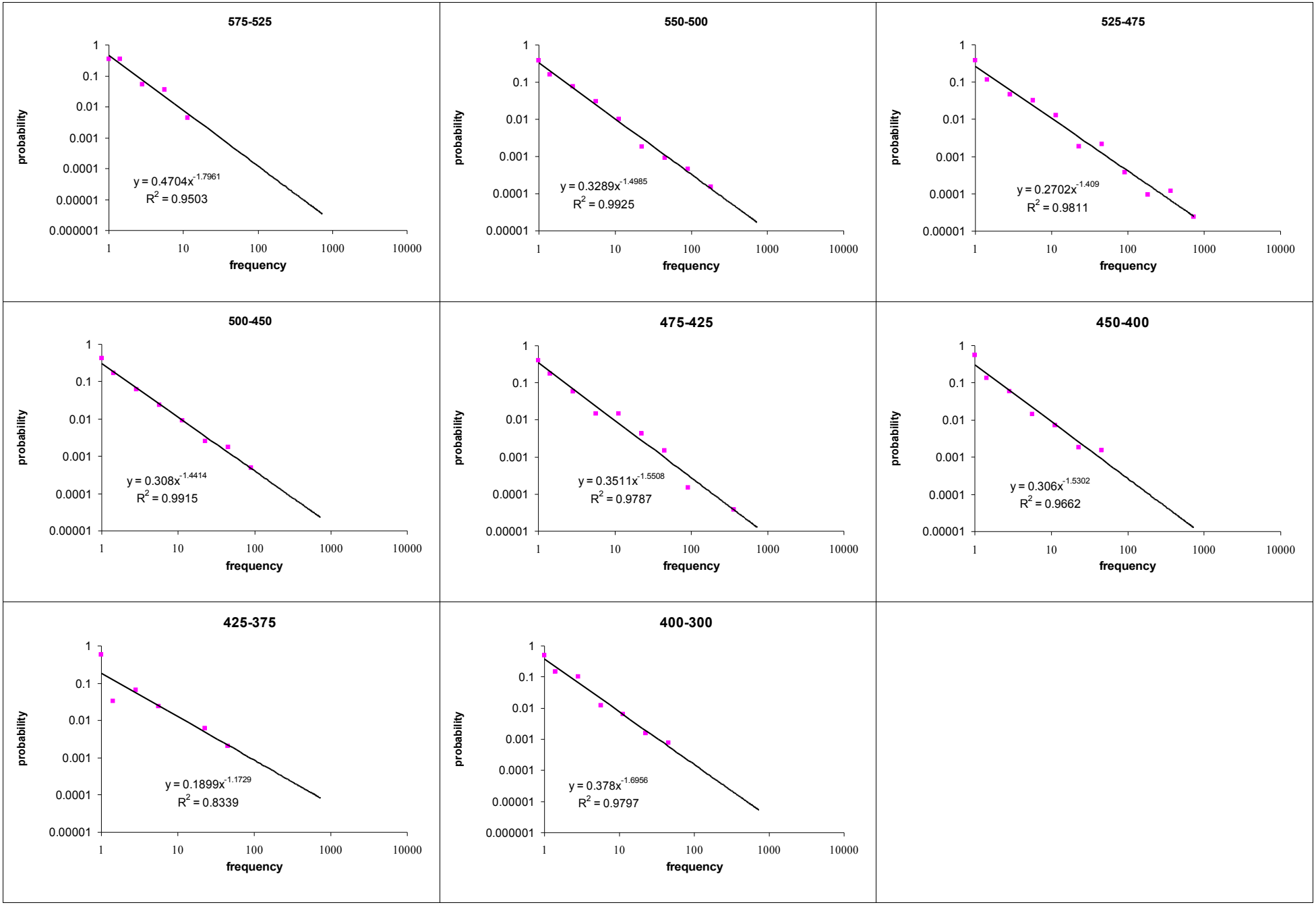
4.5.13 R squared comparison, model and data



4.5.14 Power laws by date, black-figure lekythoi

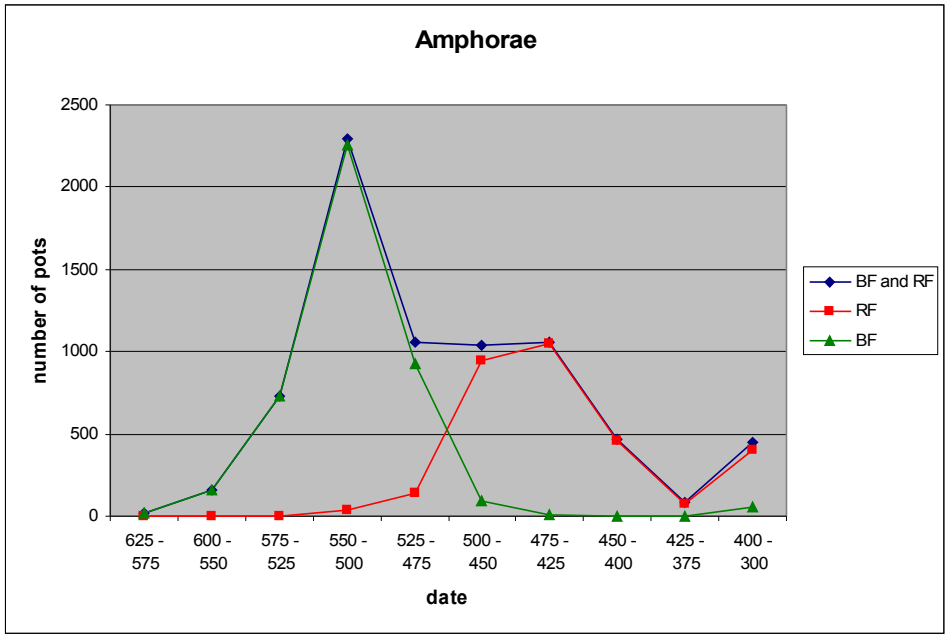


4.5.15 Power laws by date, red-figure lekythoi

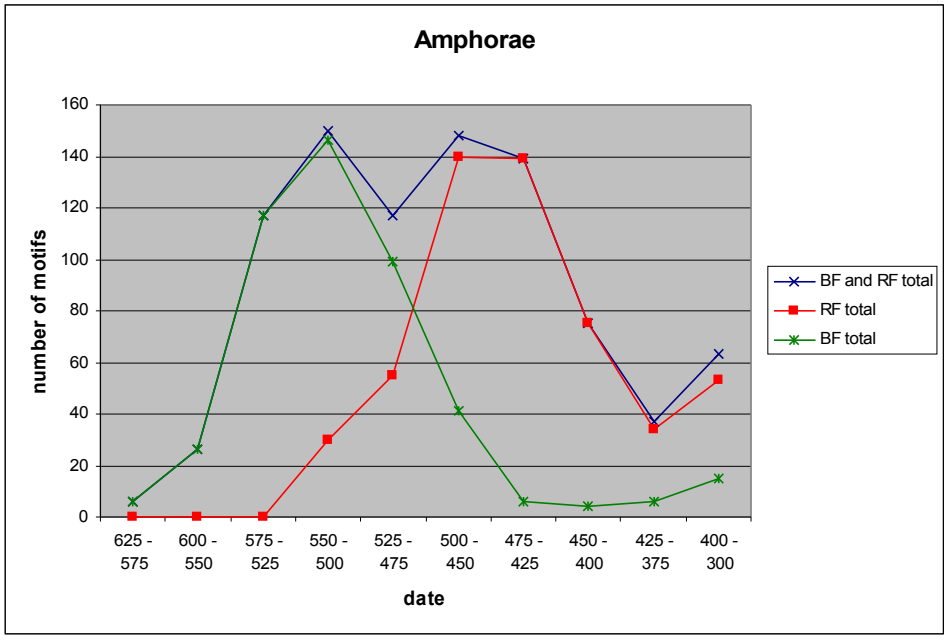


4.5.16 Power laws by date, black-figure and red-figure lekythoi

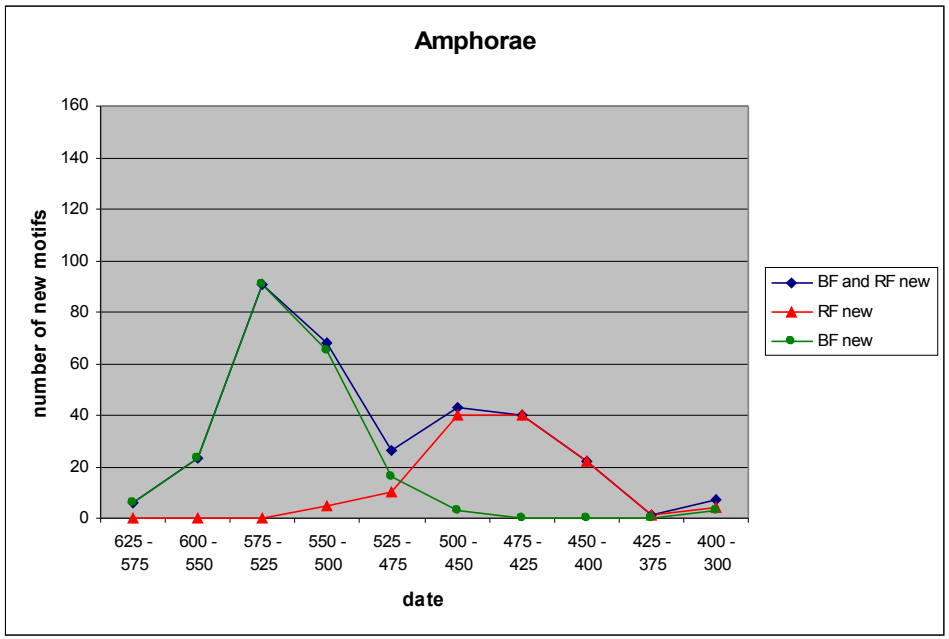
Figures Chapter 4.6 Amphorae



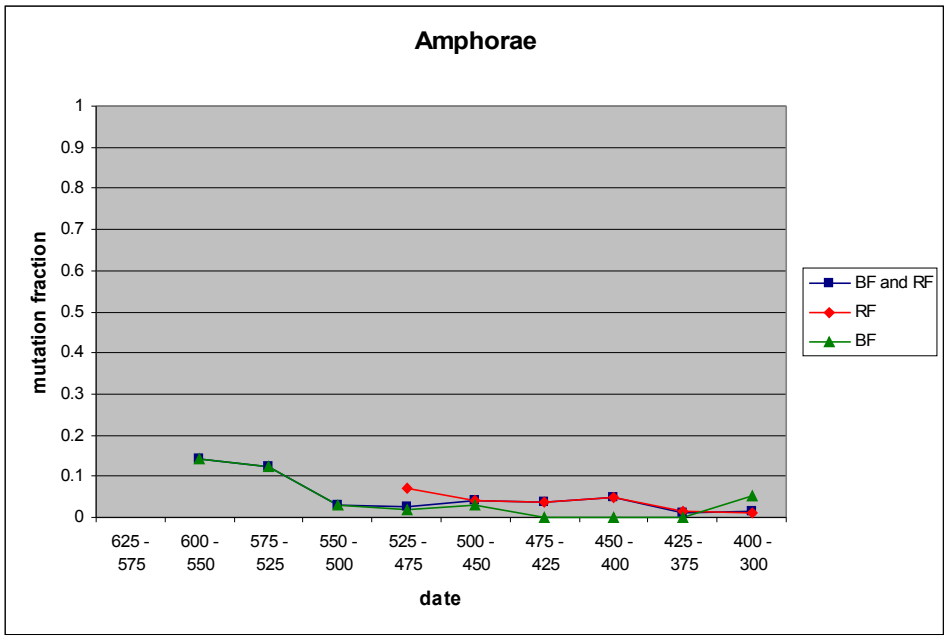
4.6.1 Sample size over time



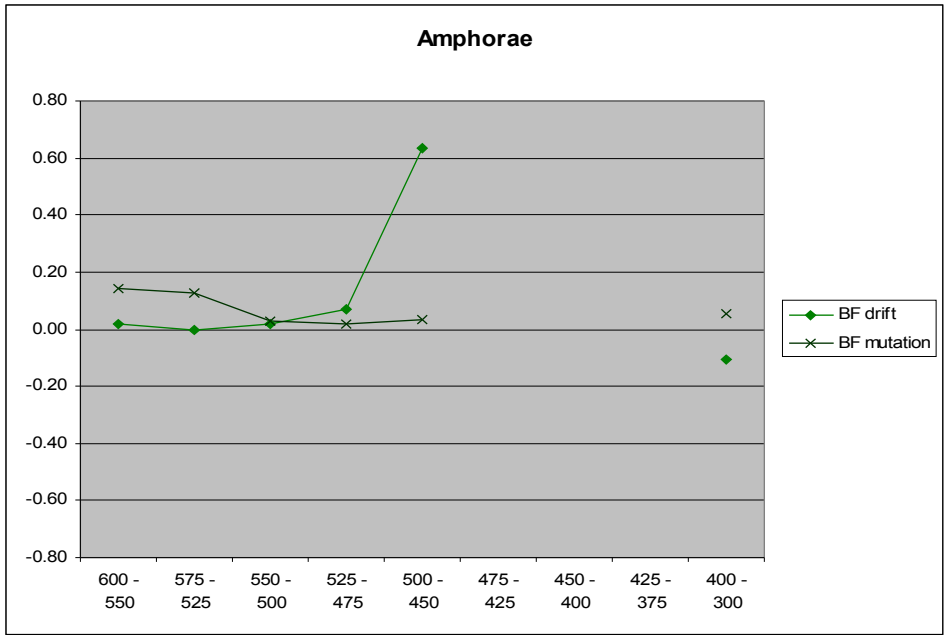
4.6.2 Motifs over time



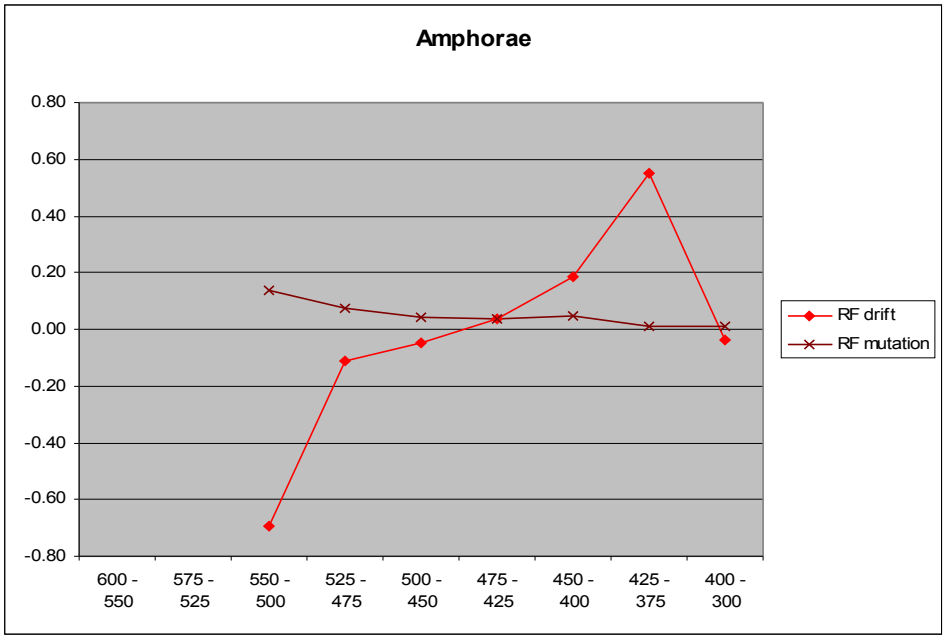
4.6.3 New motifs over time



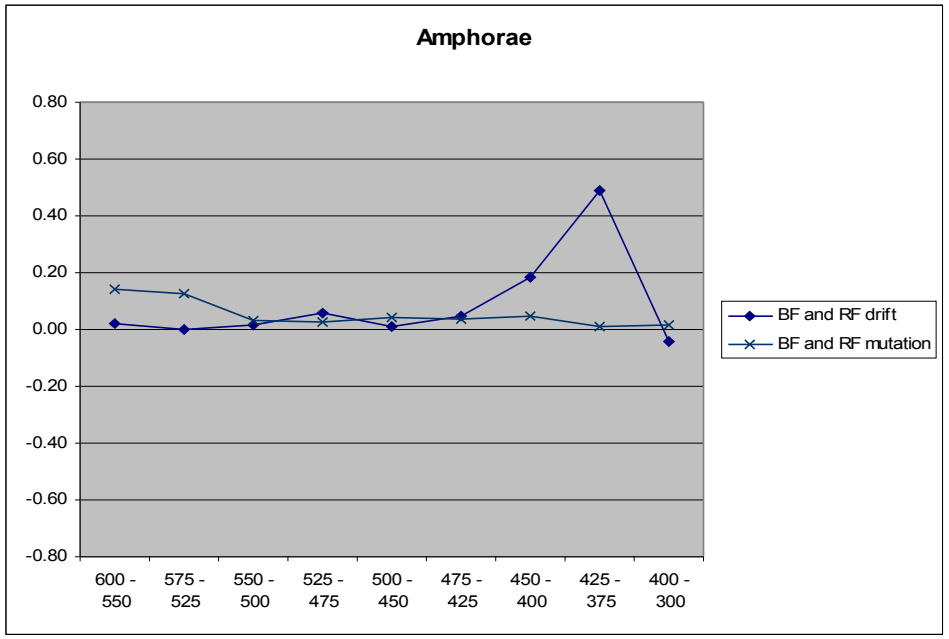
4.6.4 Mutation over time



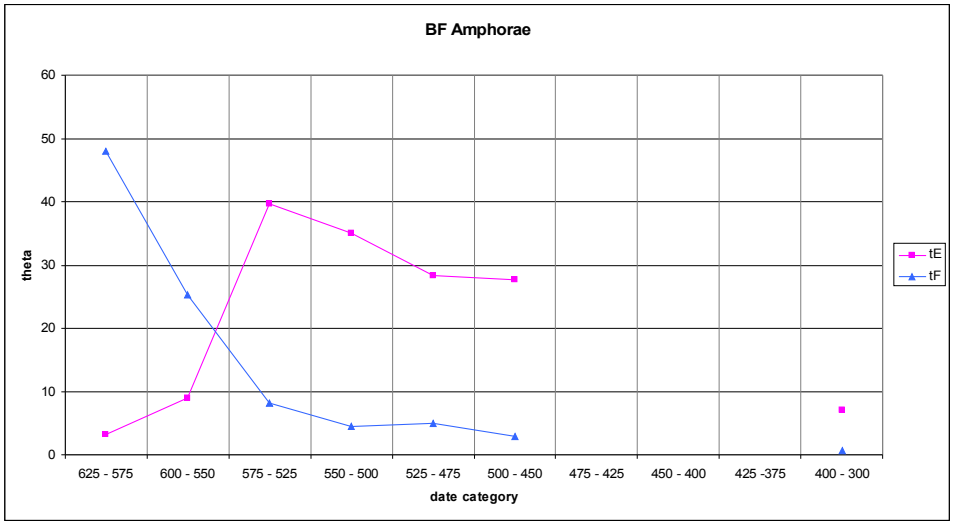
4.6.5 Drift and mutation over time, black-figure



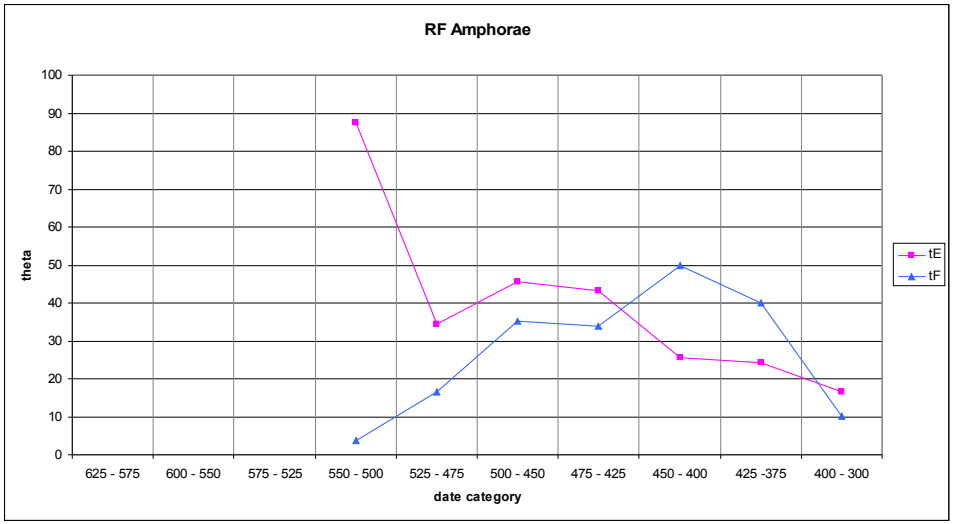
4.6.6 Drift and mutation over time, red-figure



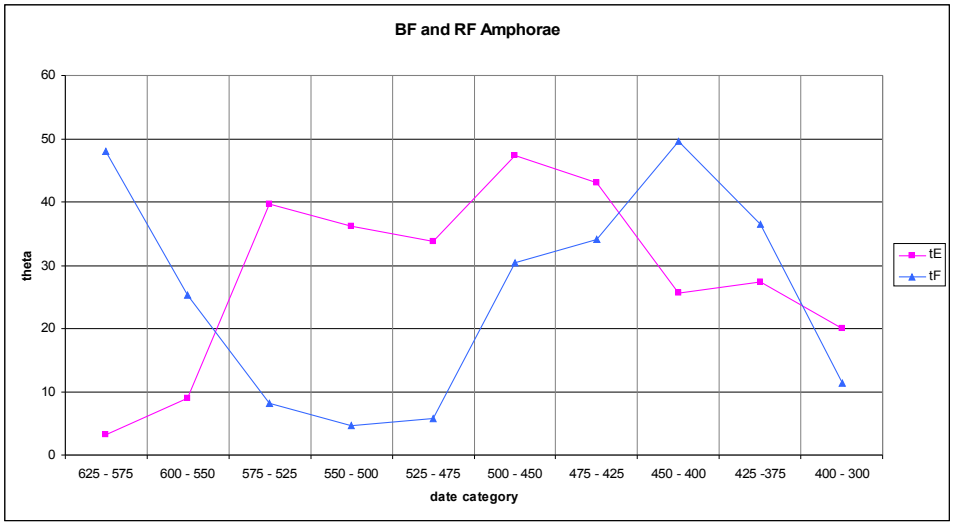
4.6.7 Drift and mutation over time, black-figure and red-figure



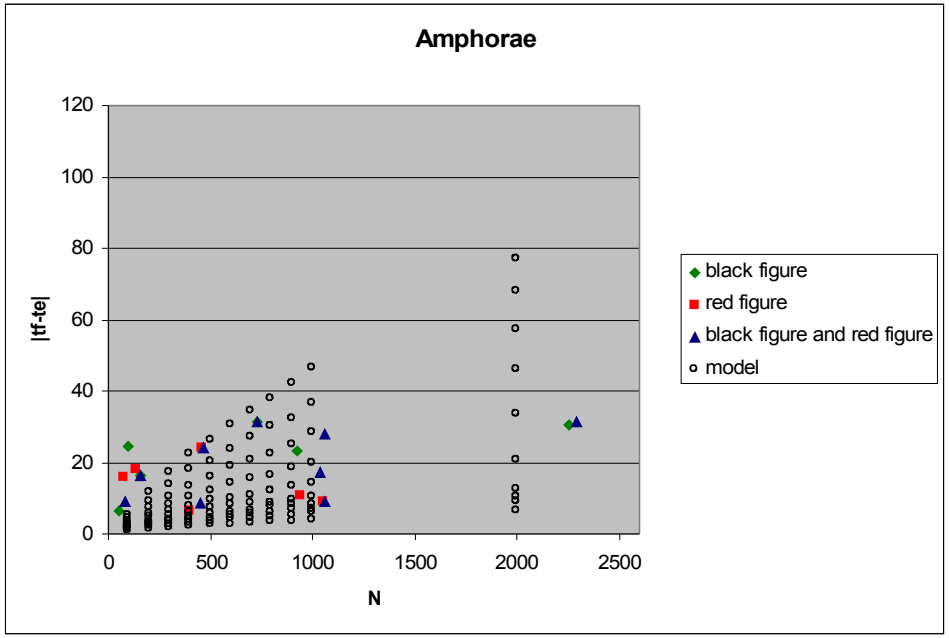
4.6.8 Estimates of theta over time, black-figure



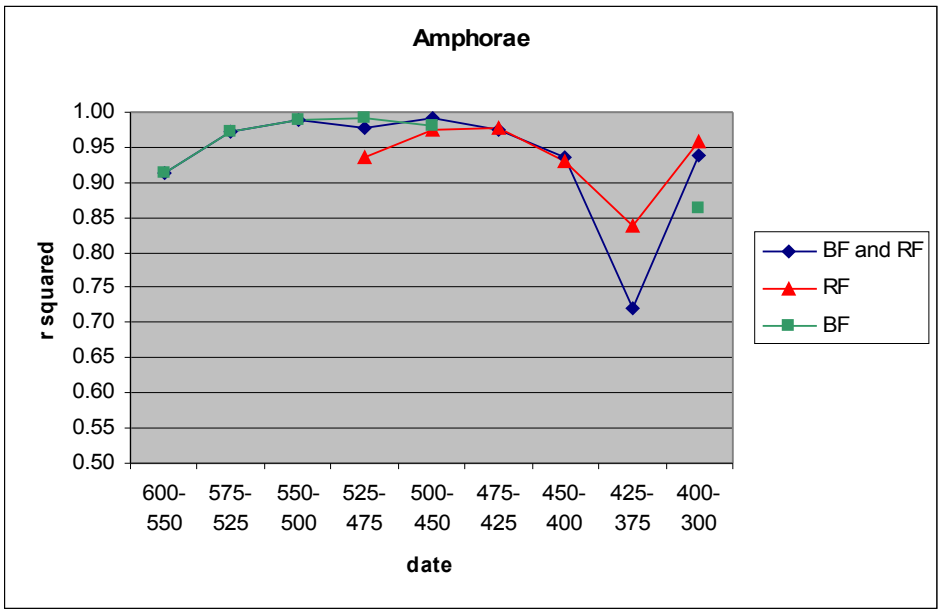
4.6.9 Estimates of theta over time, red-figure



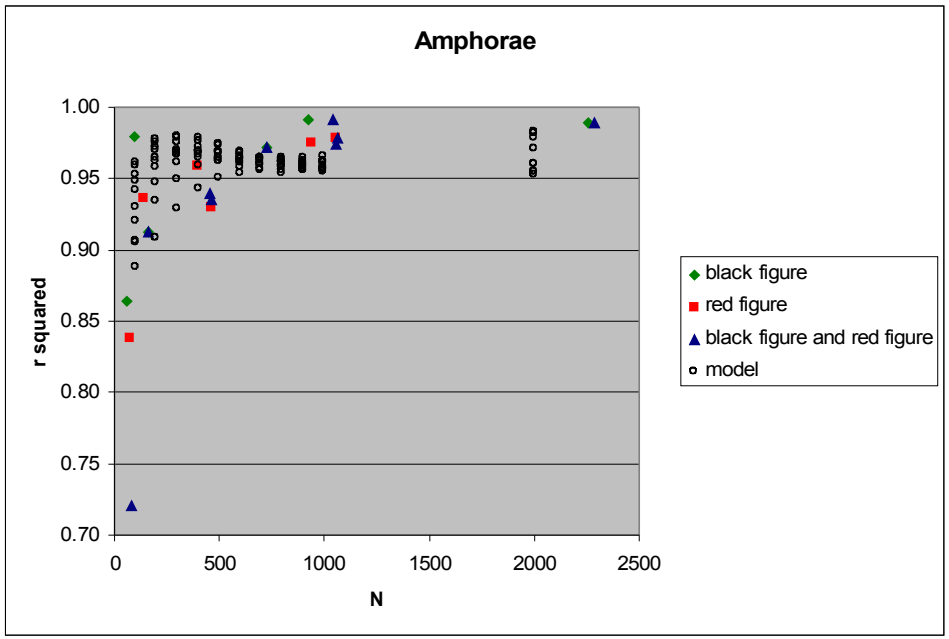
4.6.10 Estimates of theta over time, black-figure and red-figure



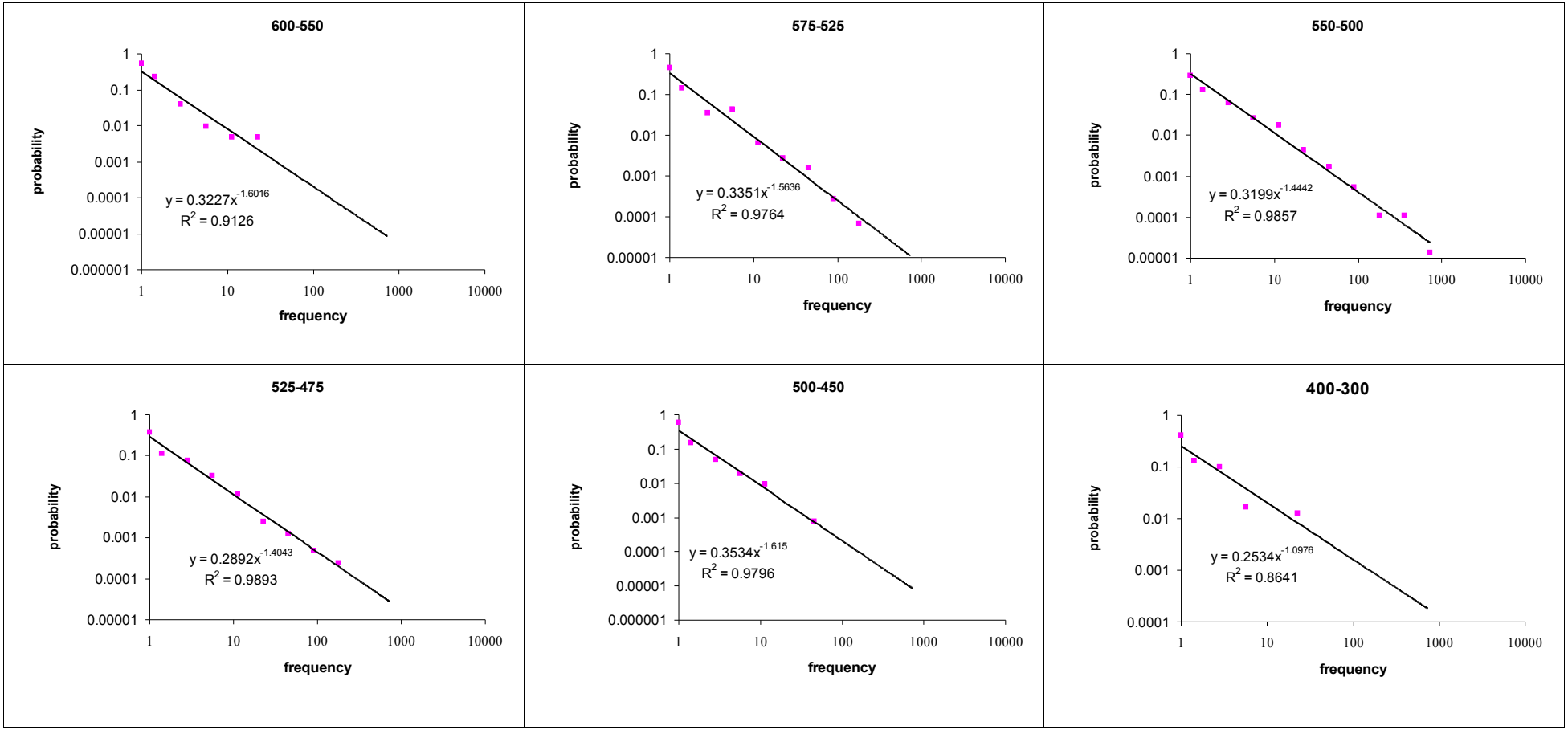
4.6.11 |tf-te| comparison, model and data



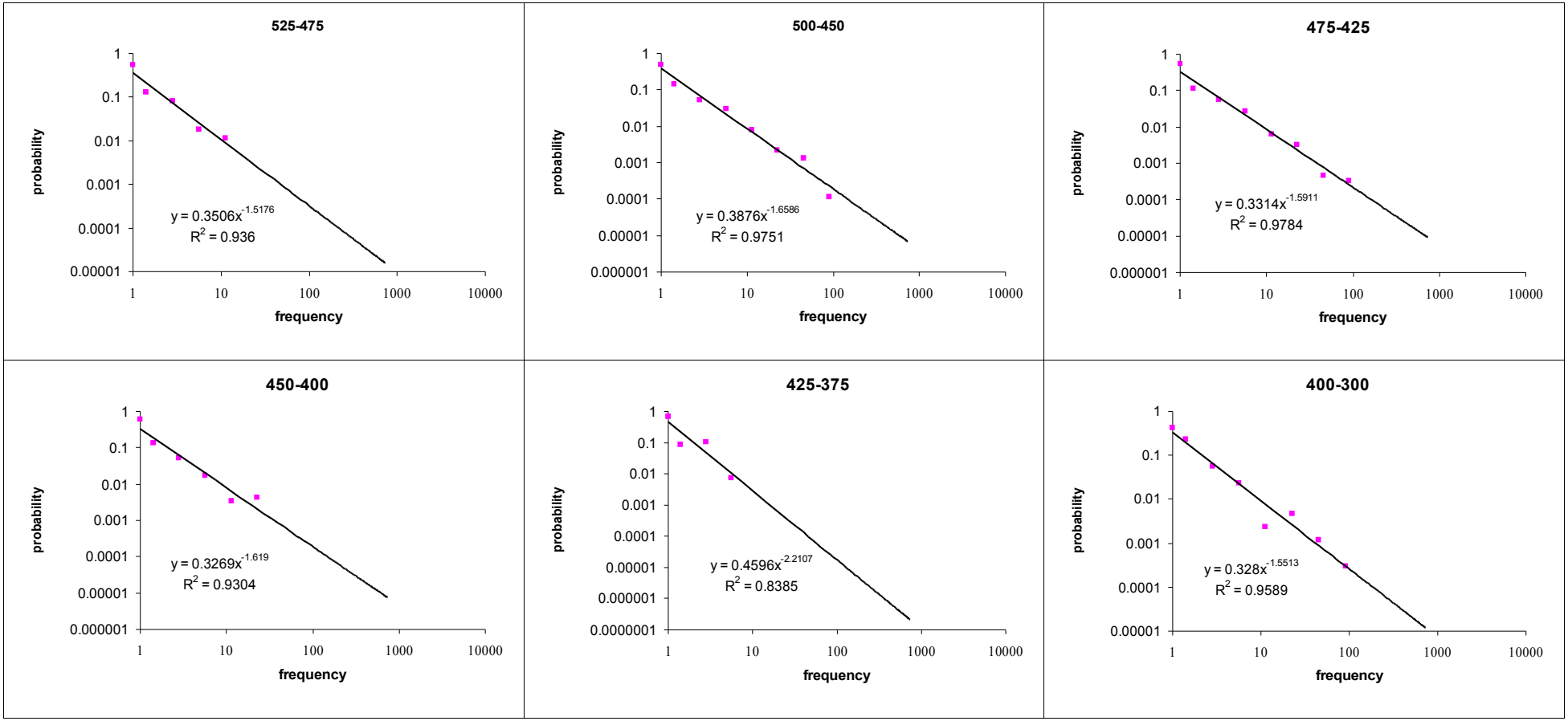
4.6.12 R squared values over time



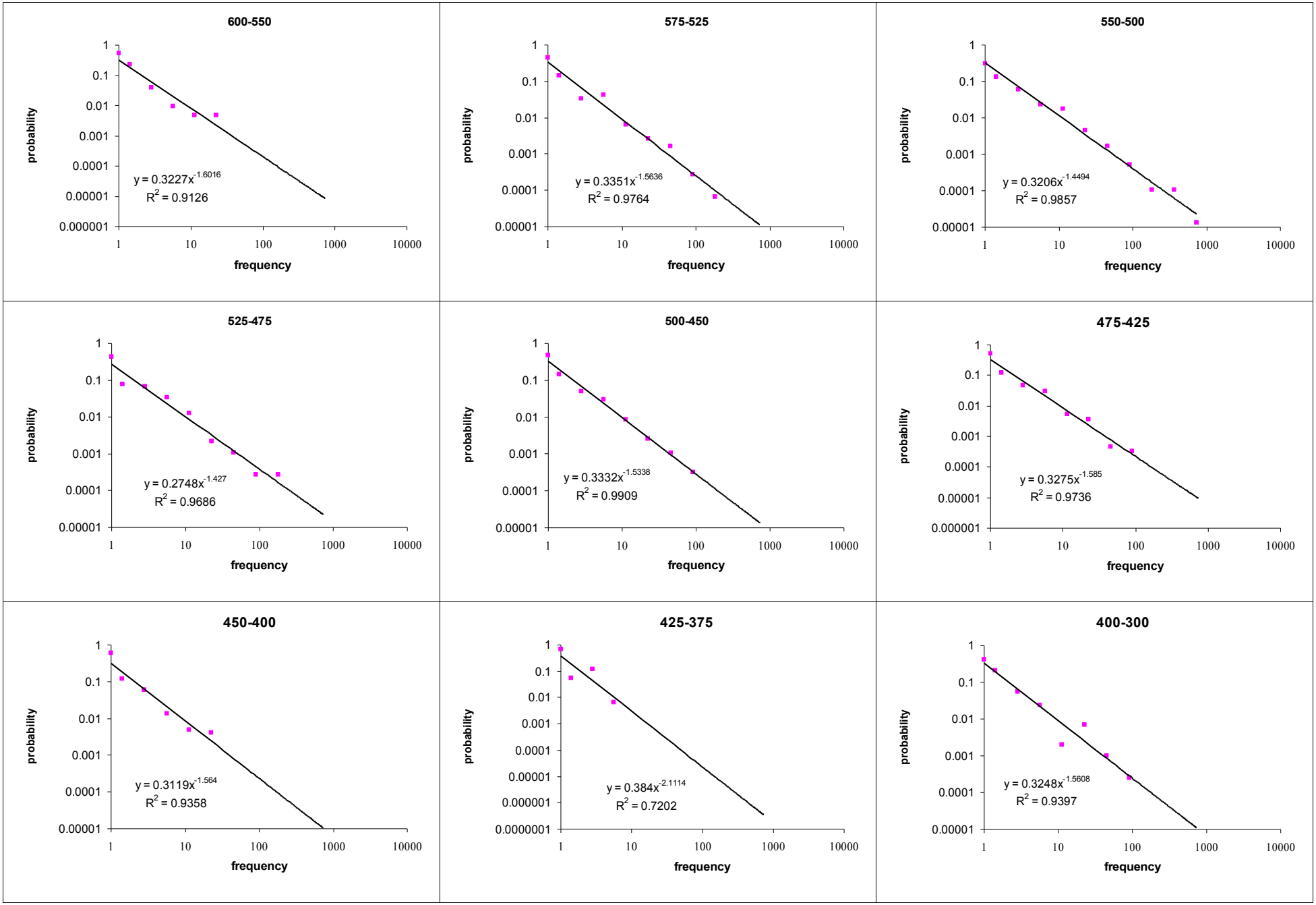
4.6.13 R squared comparison, model and data



4.6.14 Power laws by date, black-figure amphorae

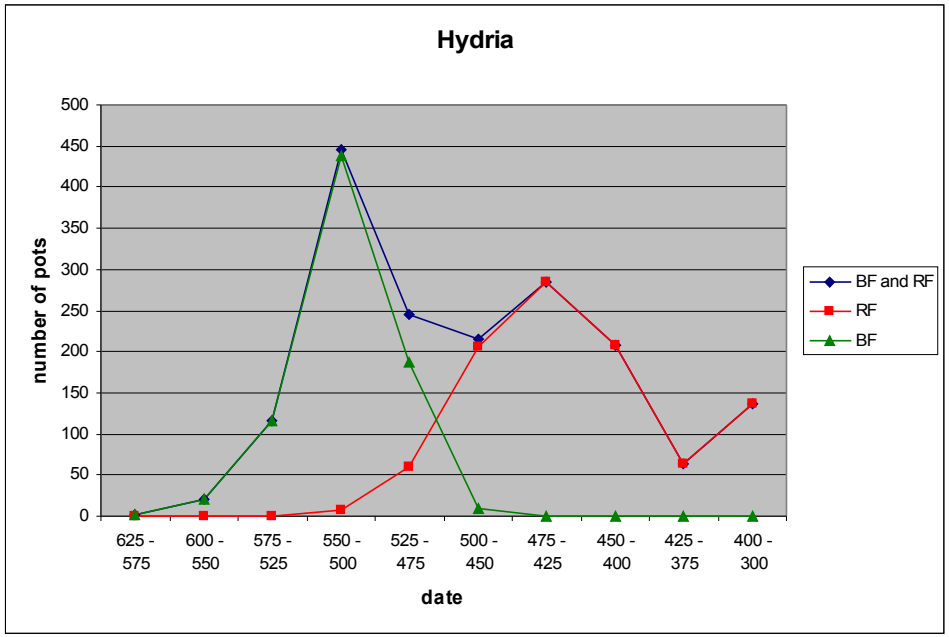


4.6.15 Power laws by date, red-figure amphorae

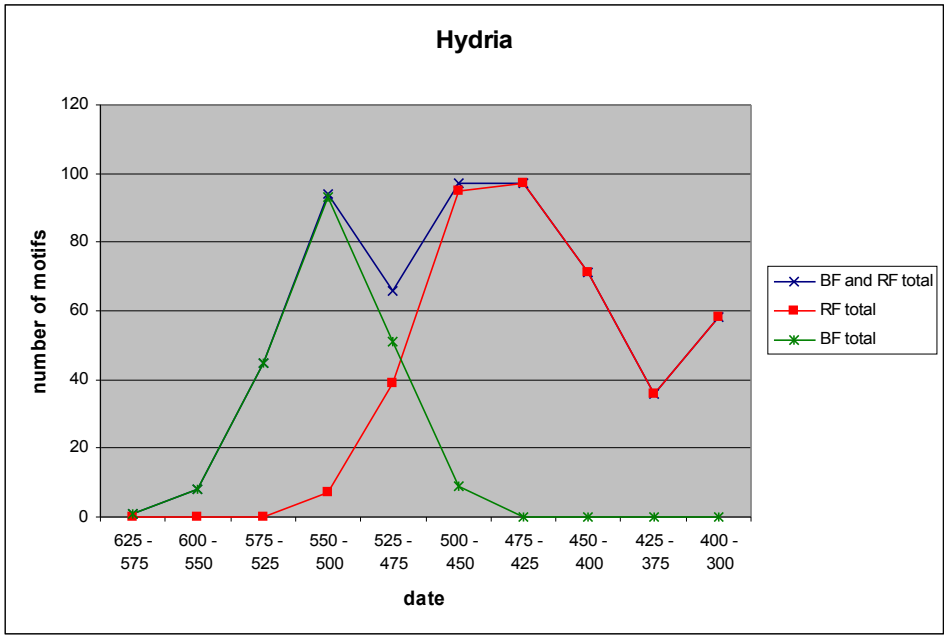


4.6.16 Power laws by date, black-figure and red-figure amphorae

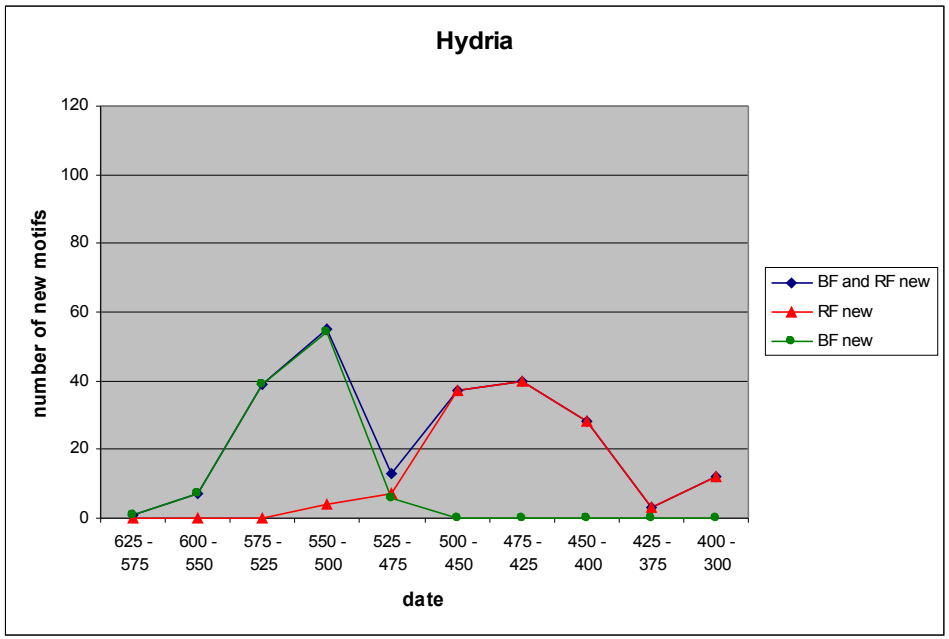
Figures Chapter 4.7 Hydria



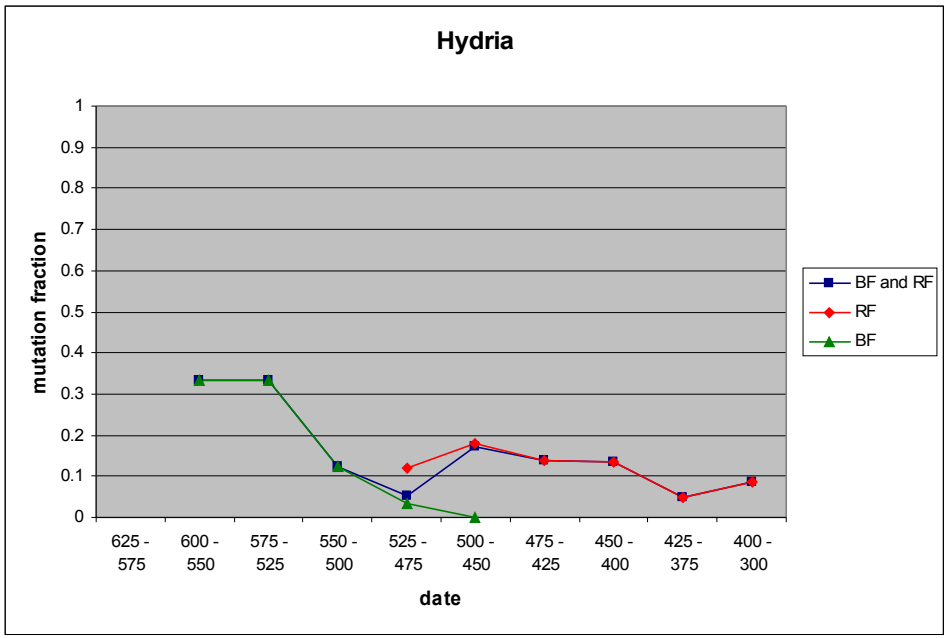
4.7.1 Sample size over time



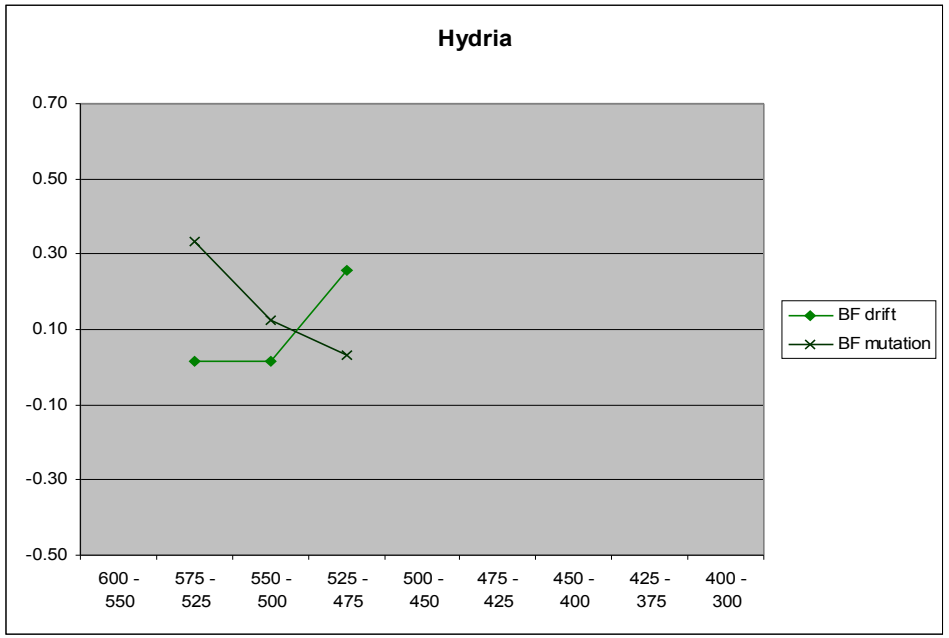
4.7.2 Motifs over time



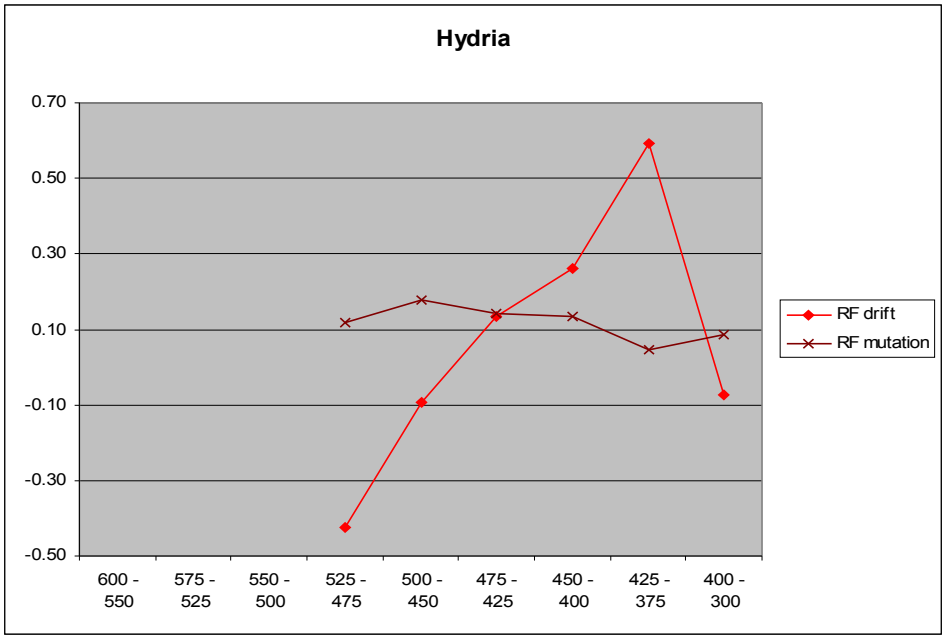
4.7.3 New motifs over time



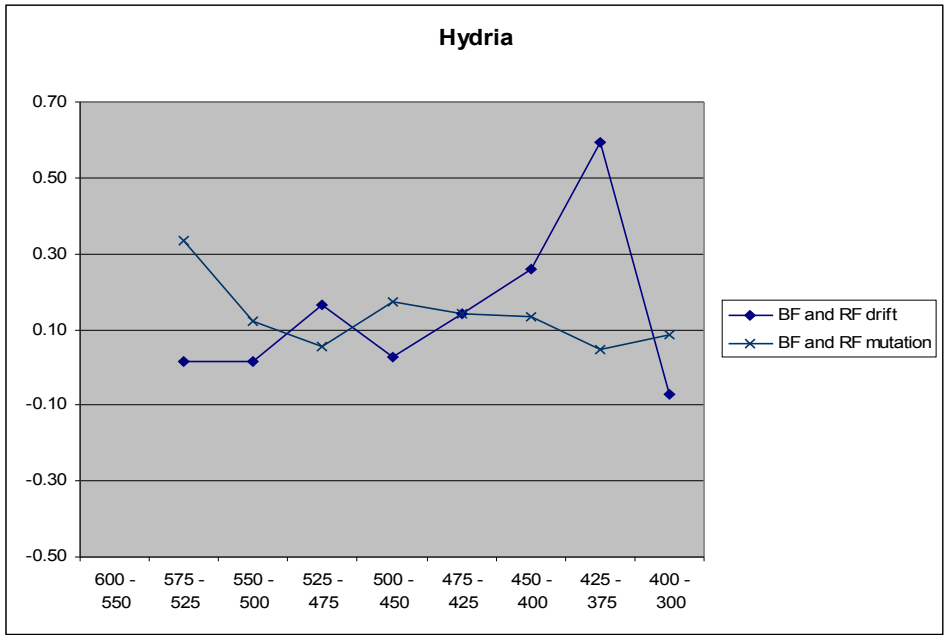
4.7.4 Mutation over time



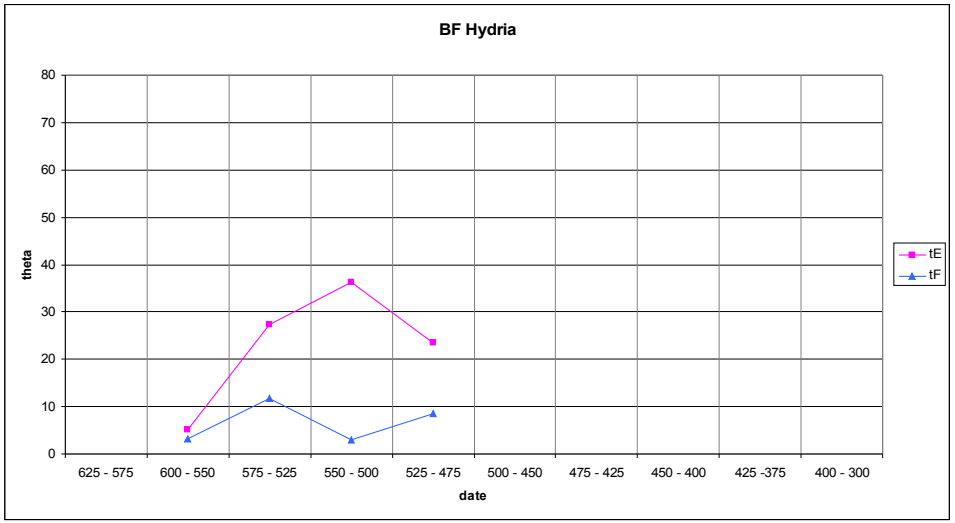
4.7.5 Drift and mutation over time, black-figure



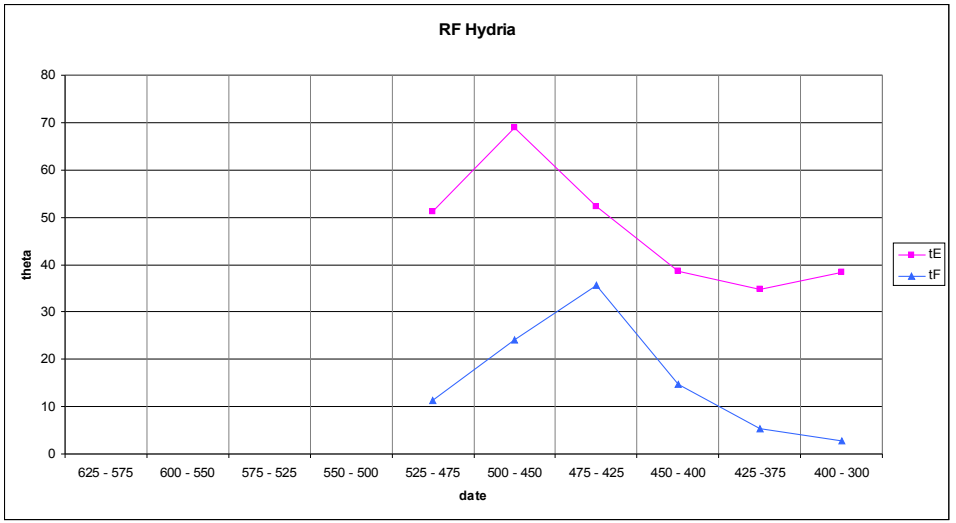
4.7.6 Drift and mutation over time, red-figure



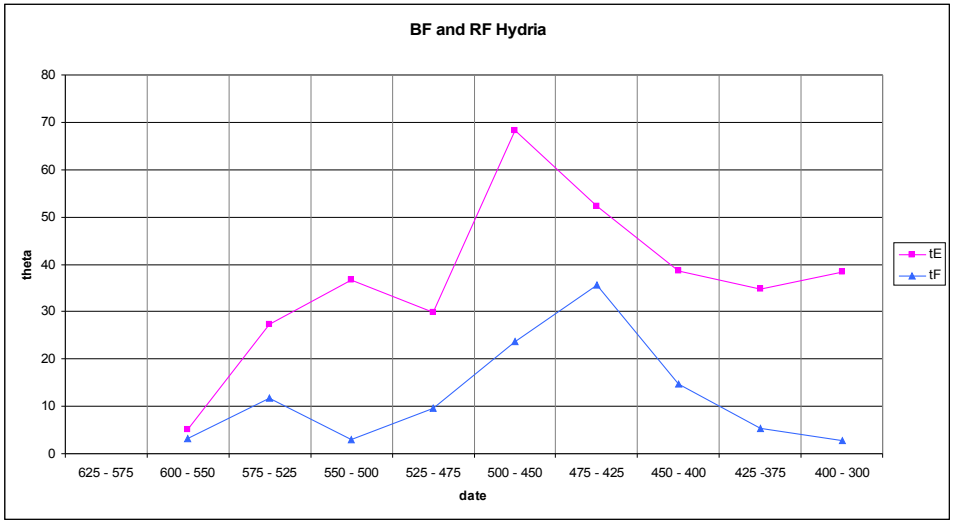
4.7.7 Drift and mutation over time, black-figure and red-figure



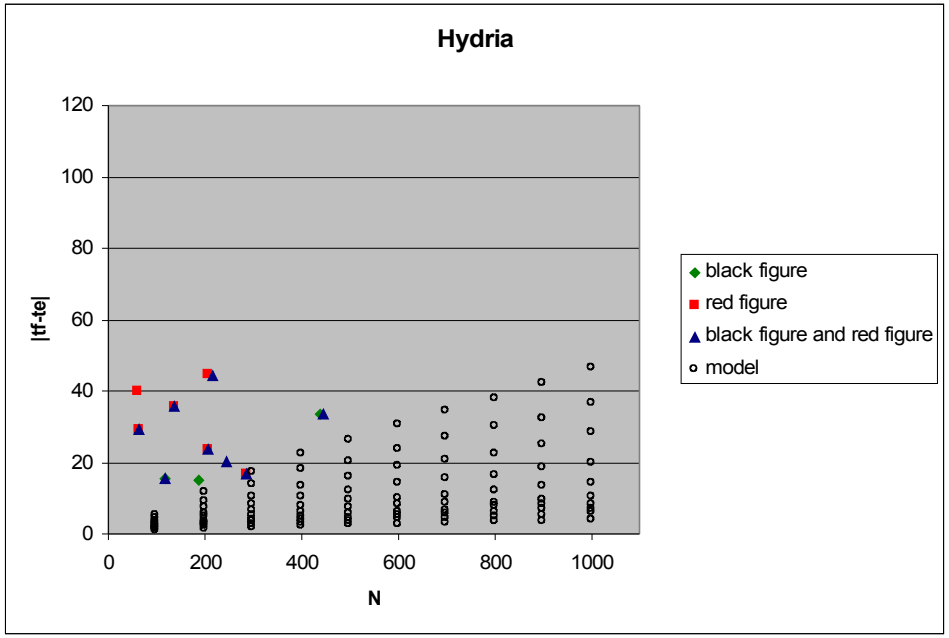
4.7.8 Estimates of theta over time, black-figure



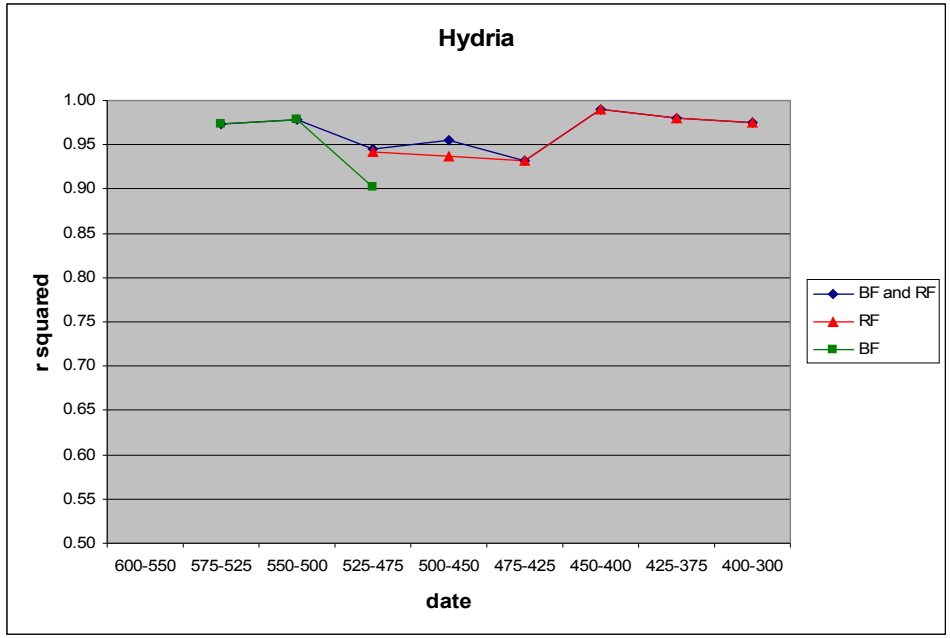
4.7.9 Estimates of theta over time, red-figure



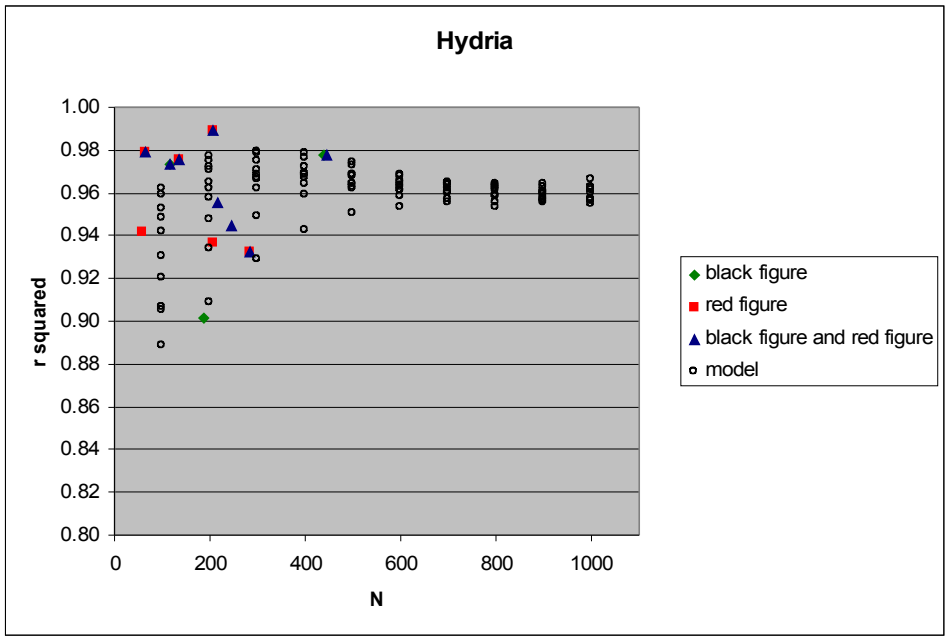
4.7.10 Estimates of theta over time, black-figure and red-figure



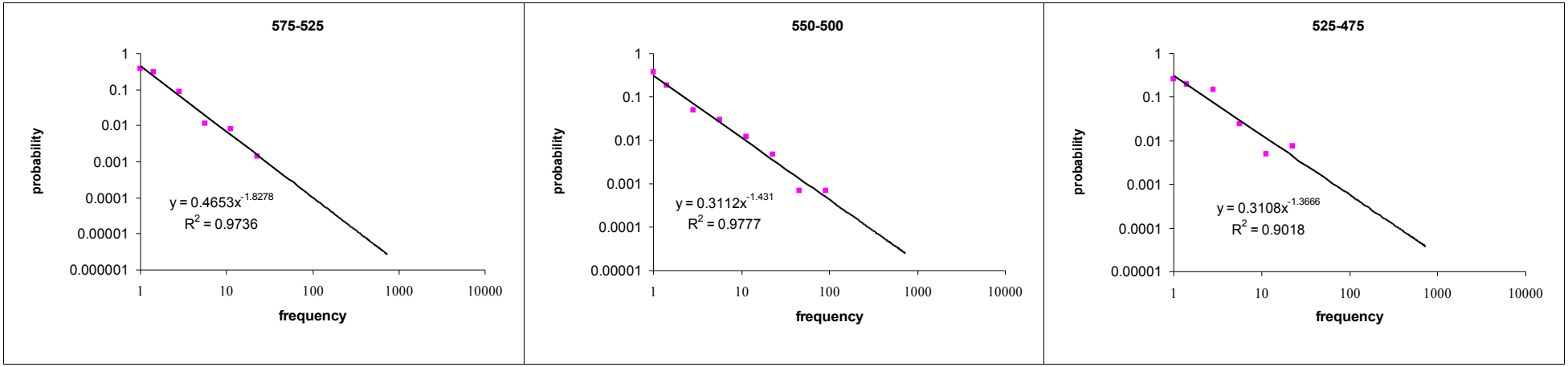
4.7.11 |tf-te| comparison, model and data



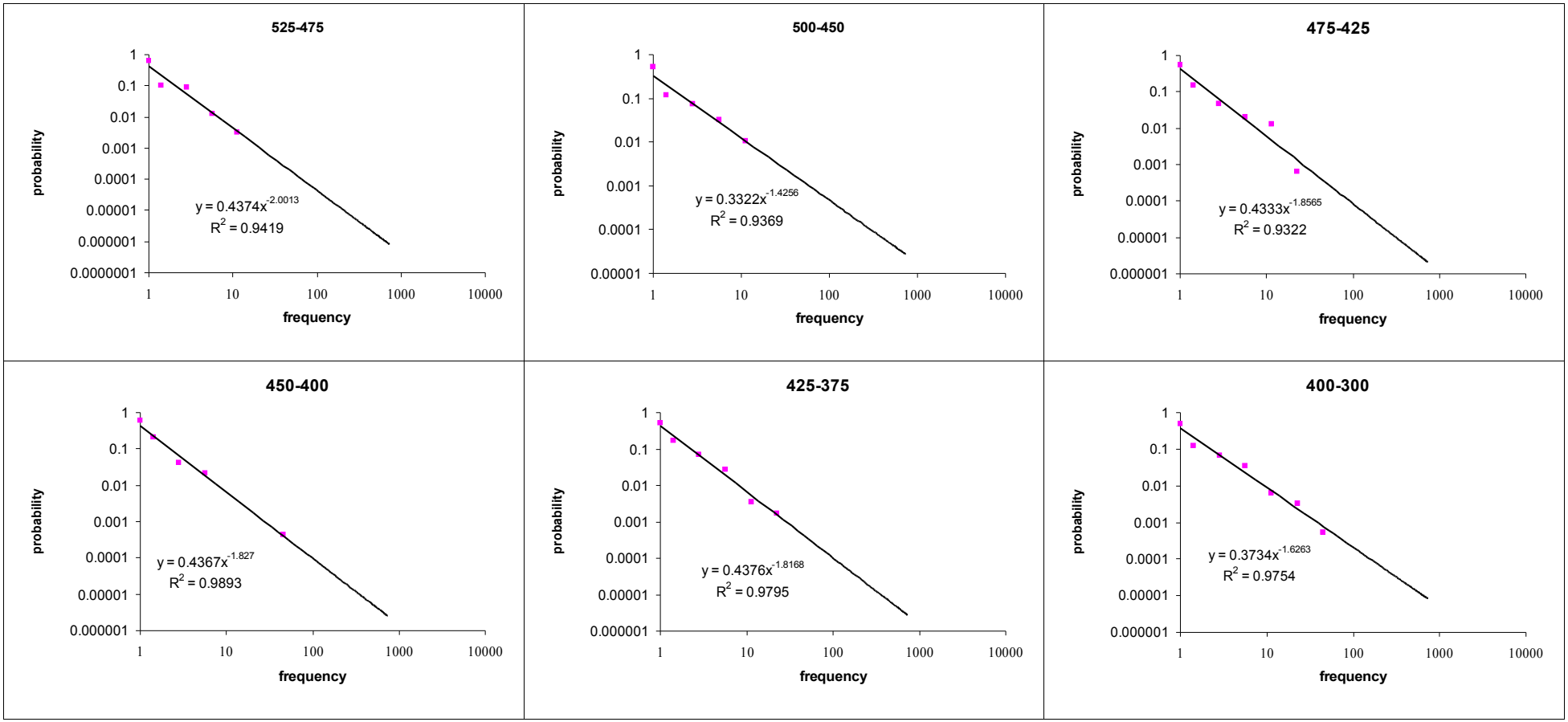
4.7.12 R squared values over time



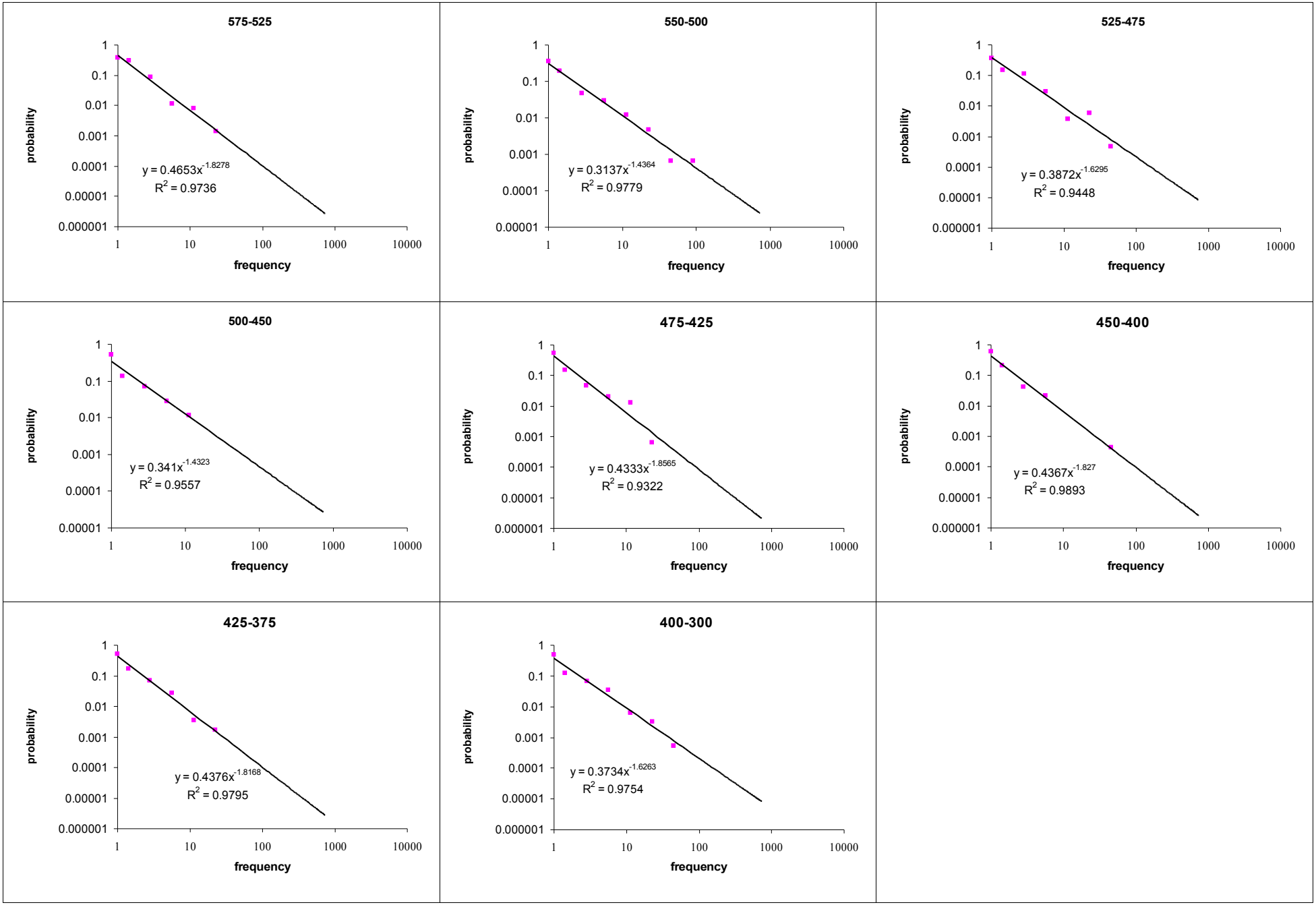
4.7.13 R squared comparison, model and data



4.7.14 Power laws by date, black-figure hydria

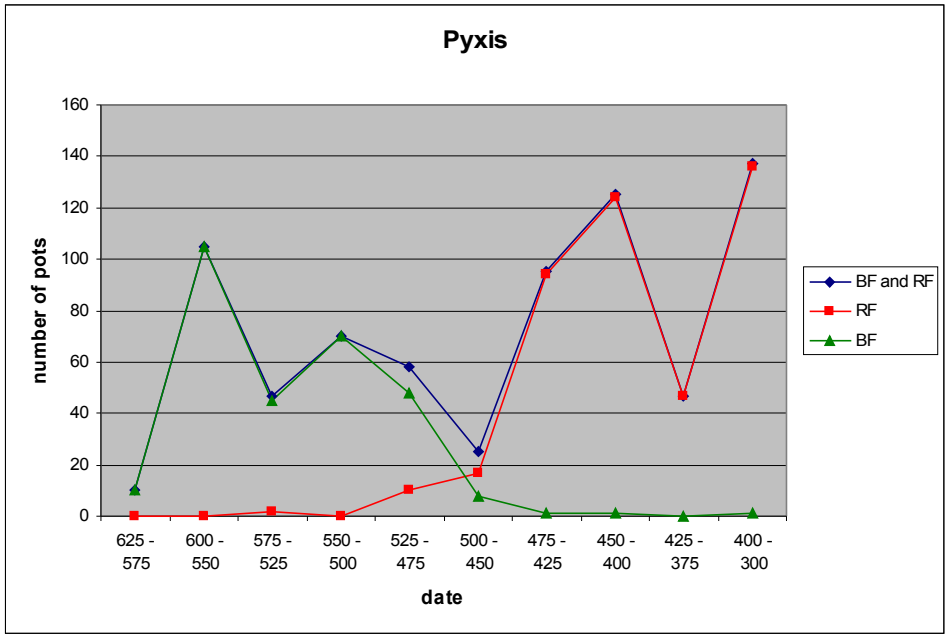


4.7.15 Power laws by date, red-figure hydria

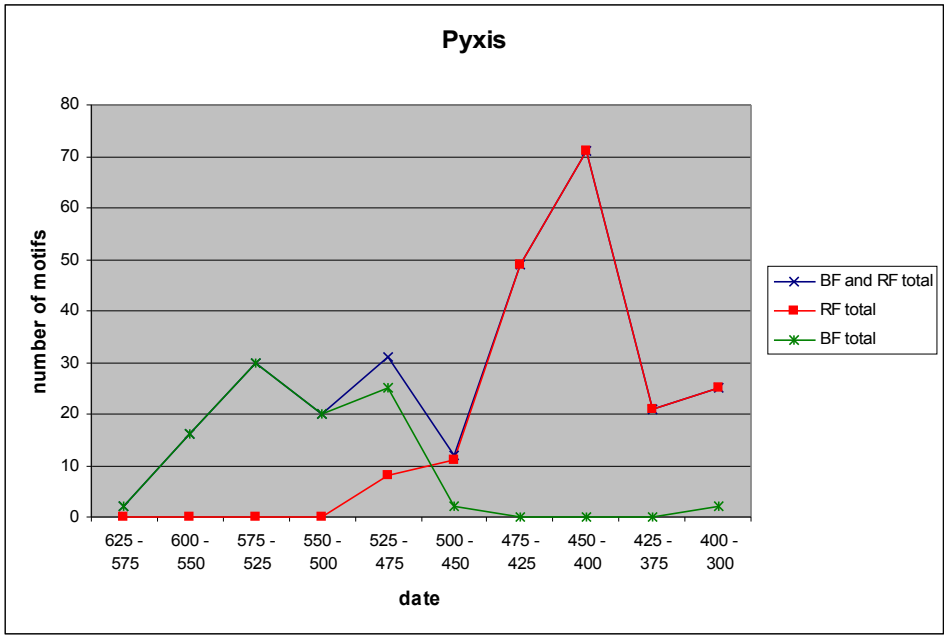


4.7.16 Power laws by date, black-figure and red-figure hydria

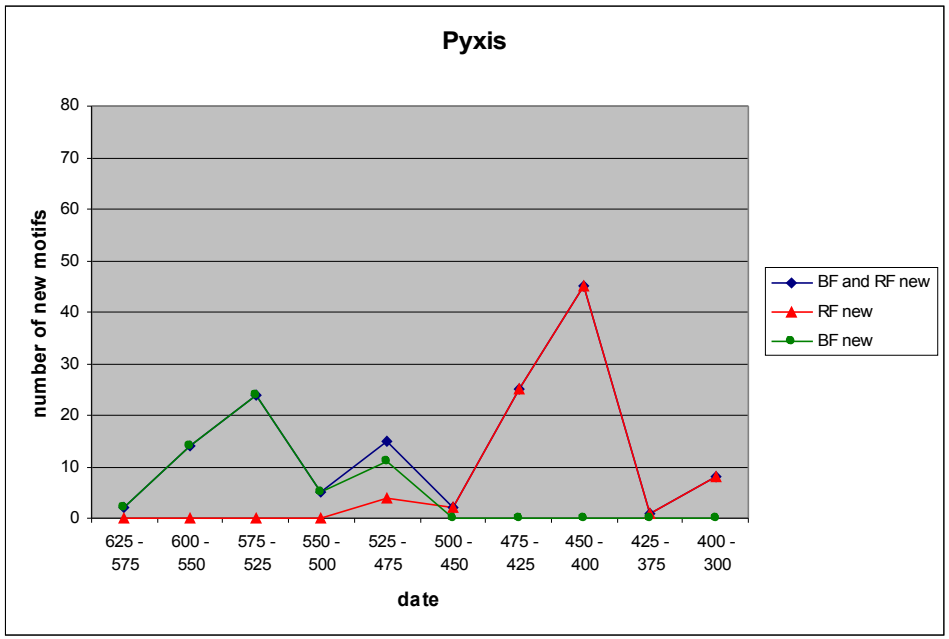
Figures Chapter 4.8 Pyxis



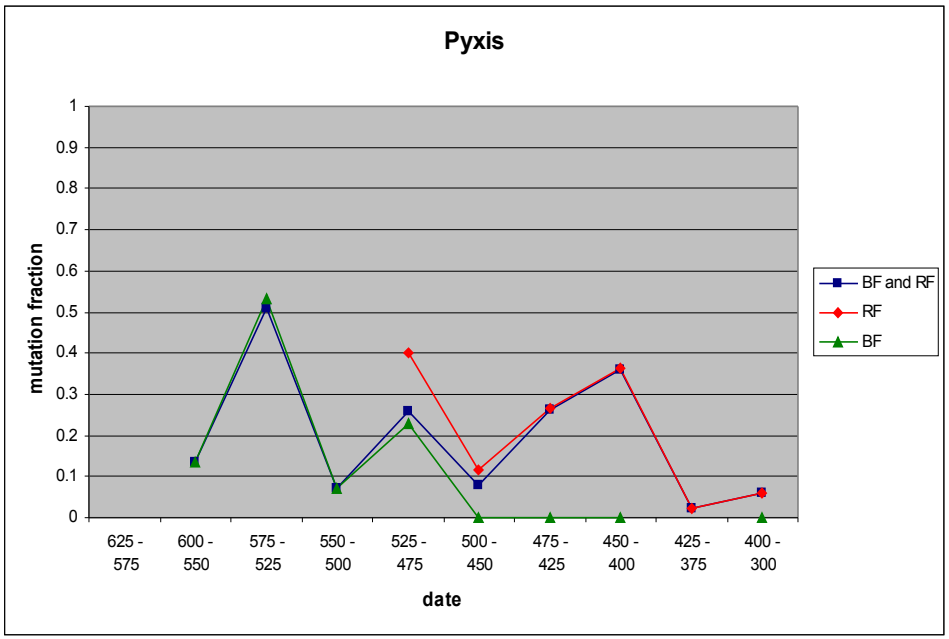
4.8.1 Sample size over time



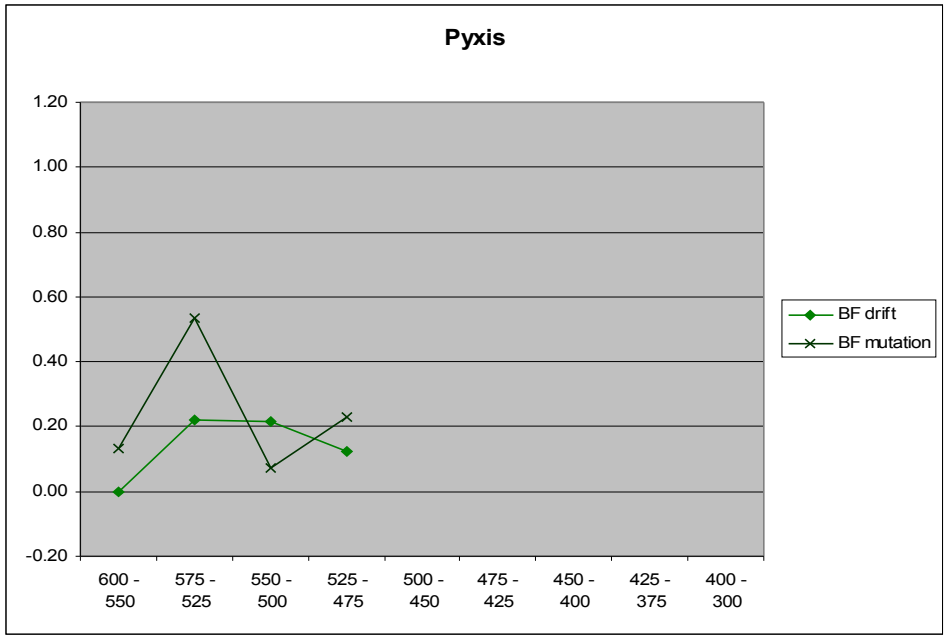
4.8.2 Motifs over time



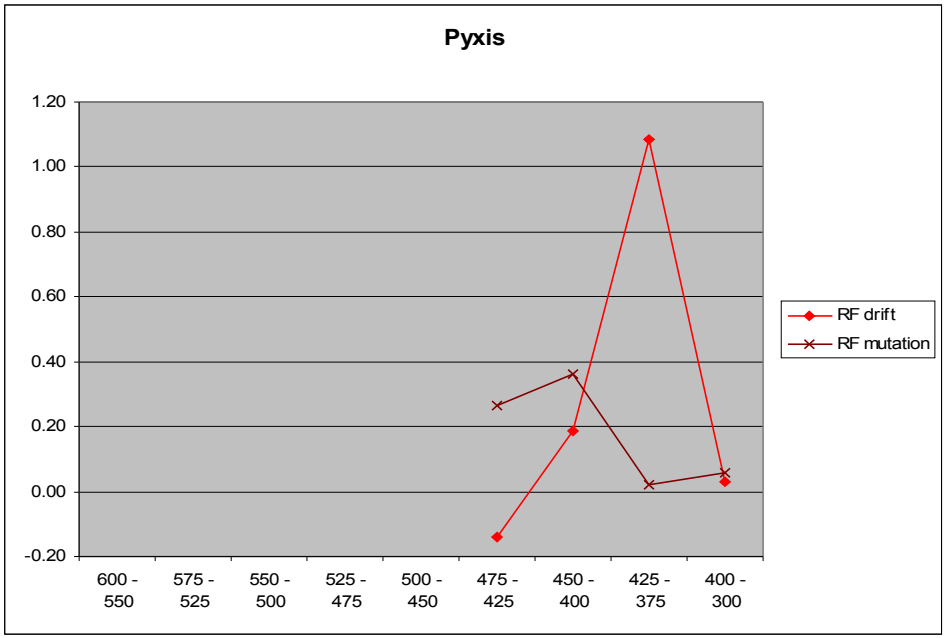
4.8.3 New motifs over time



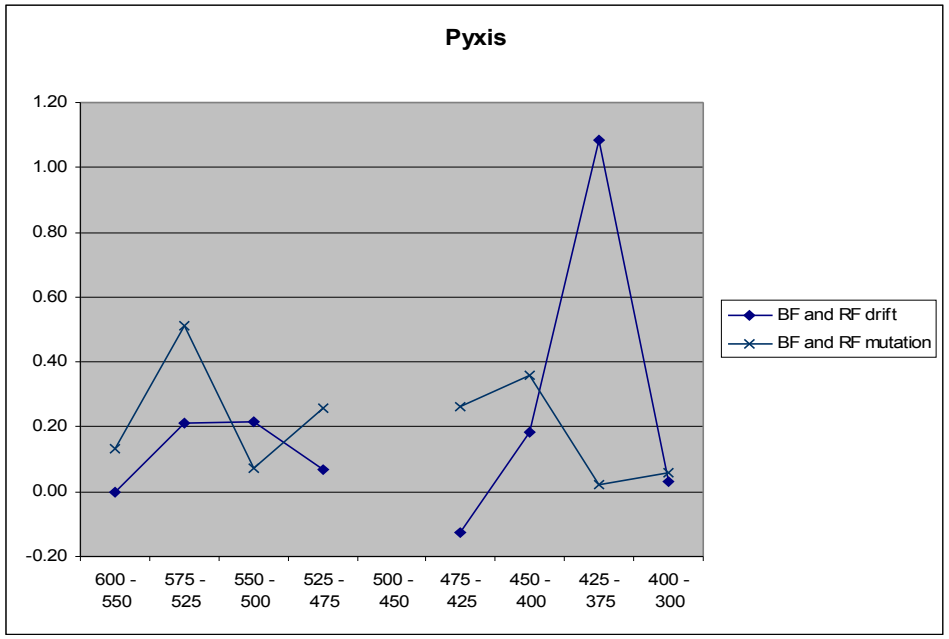
4.8.4 Mutation over time



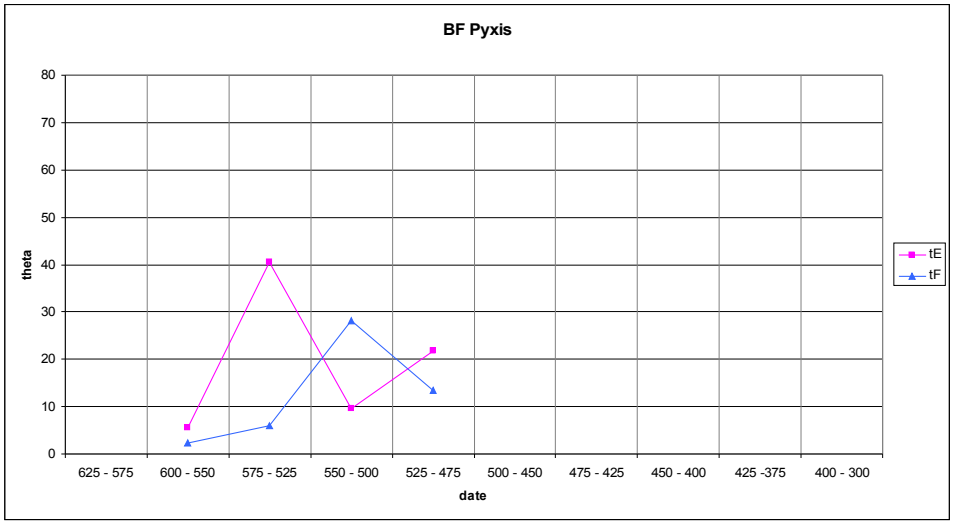
4.8.5 Drift and mutation over time, black-figure



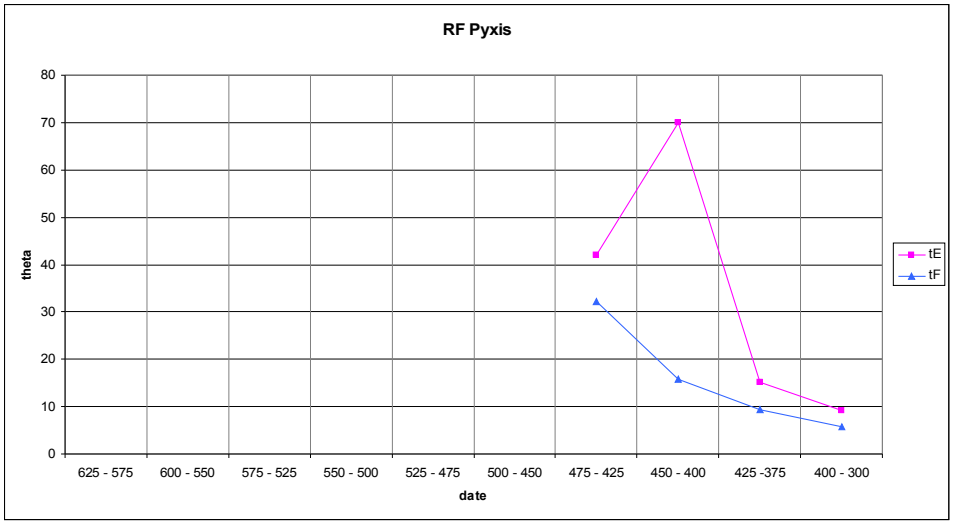
4.8.6 Drift and mutation over time, red-figure



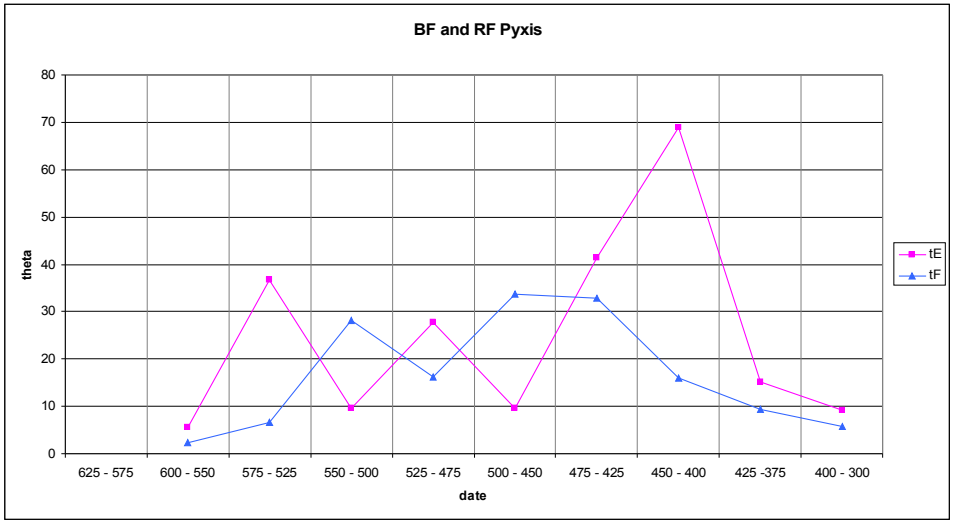
4.8.7 Drift and mutation over time, black-figure and red-figure



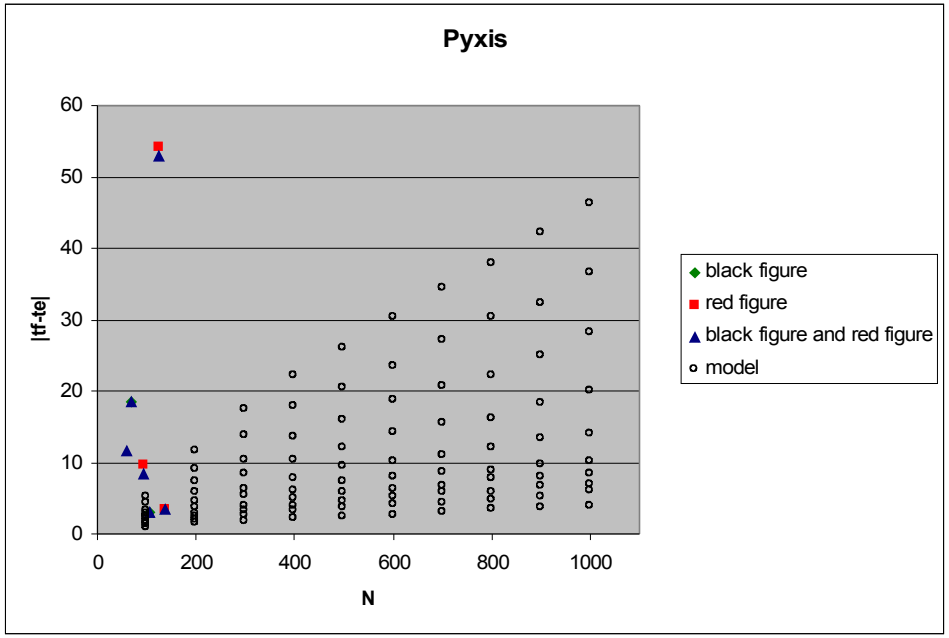
4.8.8 Estimates of theta over time, black-figure



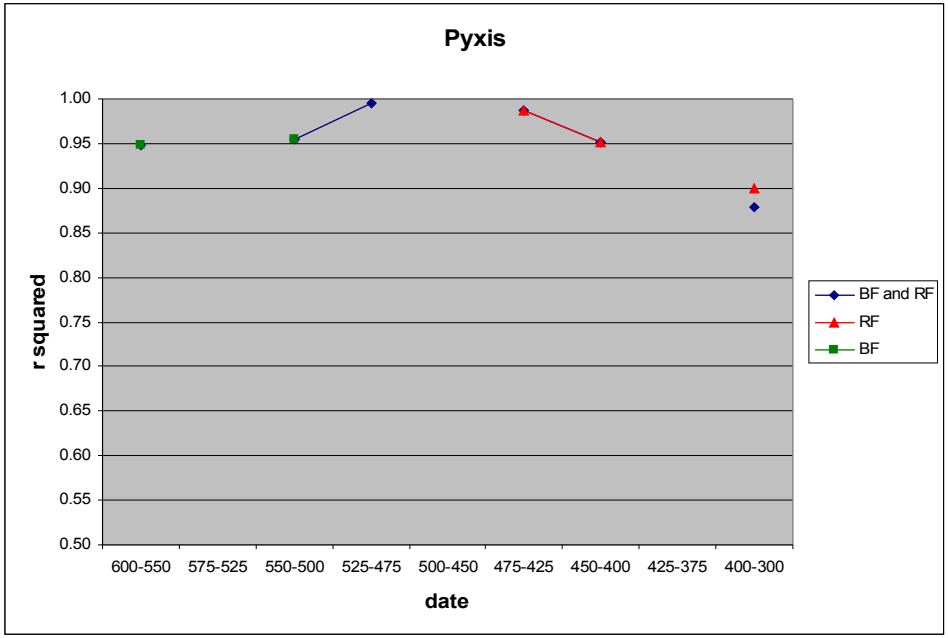
4.8.9 Estimates of theta over time, red-figure



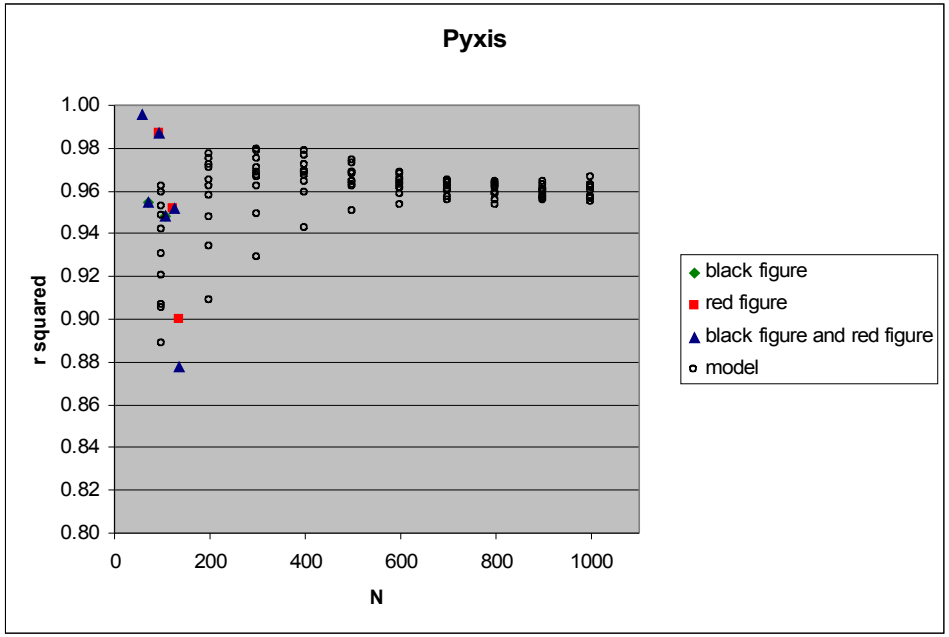
4.8.10 Estimates of theta over time, black-figure and red-figure



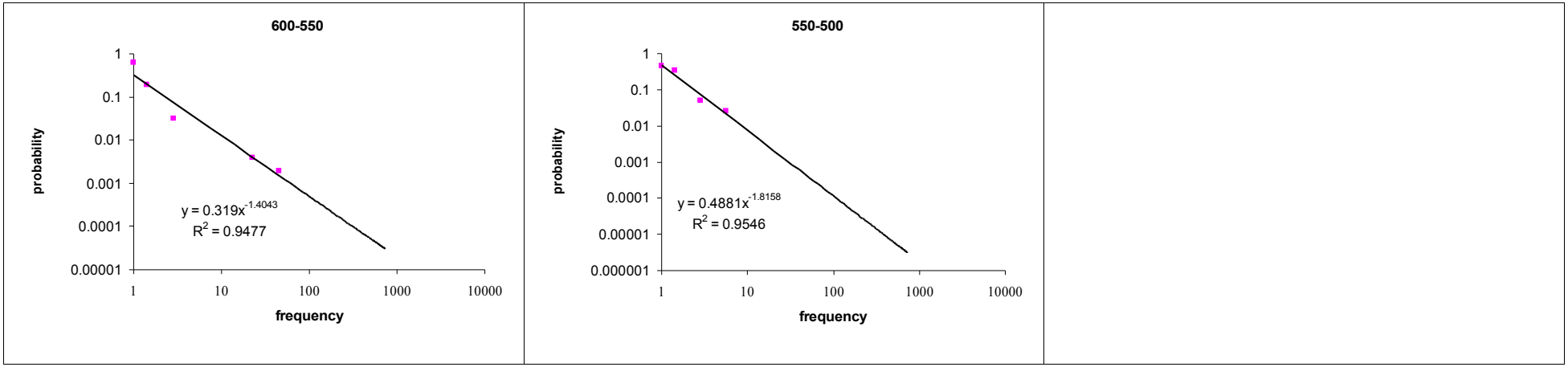
4.8.11 |tf-te| comparison, model and data



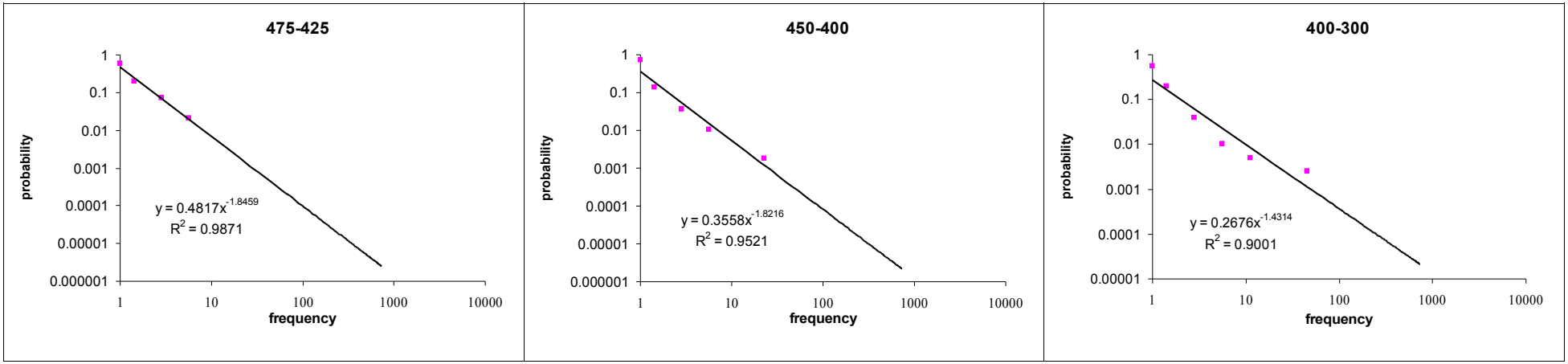
4.8.12 R squared values over time



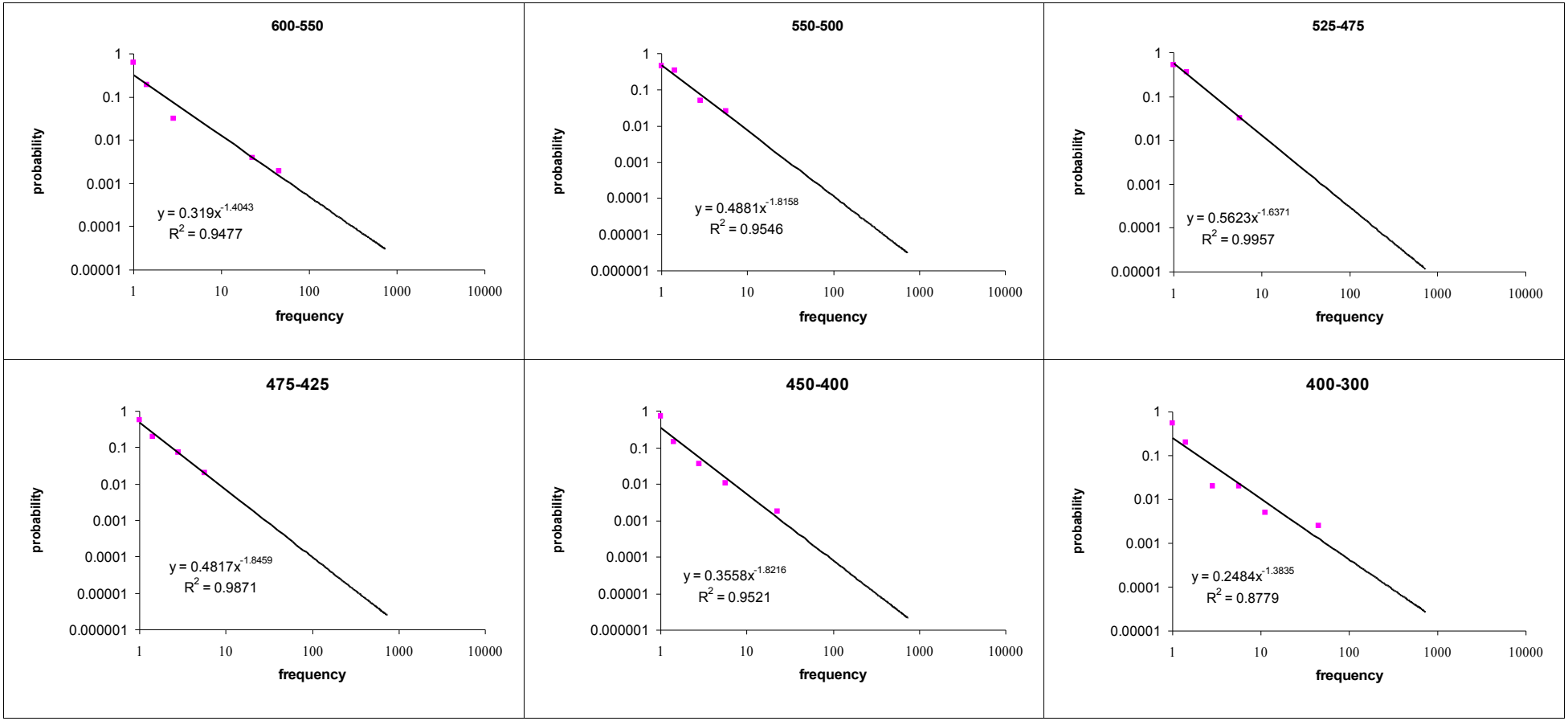
4.8.13 R squared comparison, model and data



4.8.14 Power laws by date, black-figure pyxis

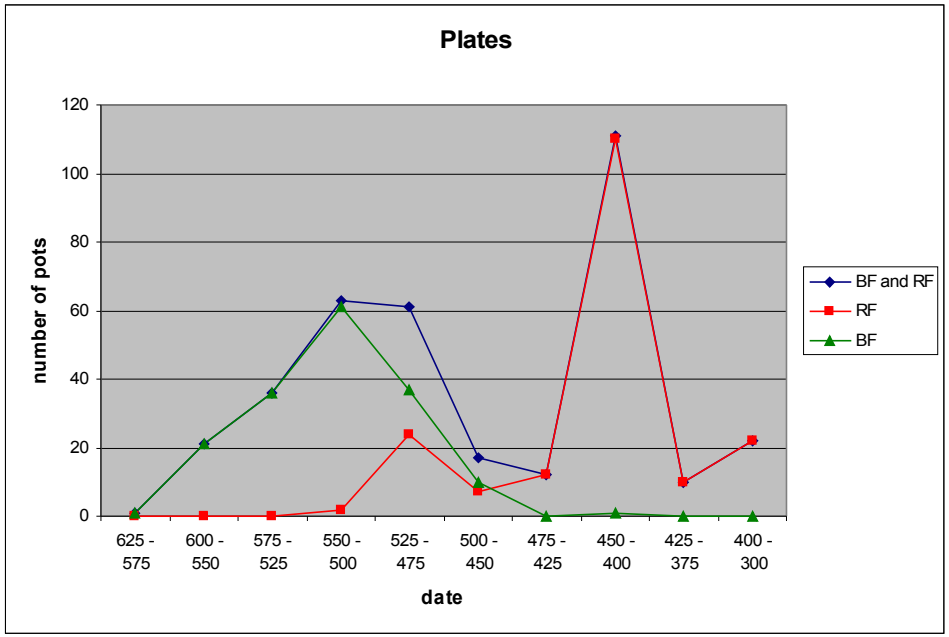


4.8.15 Power laws by date, red-figure pyxis

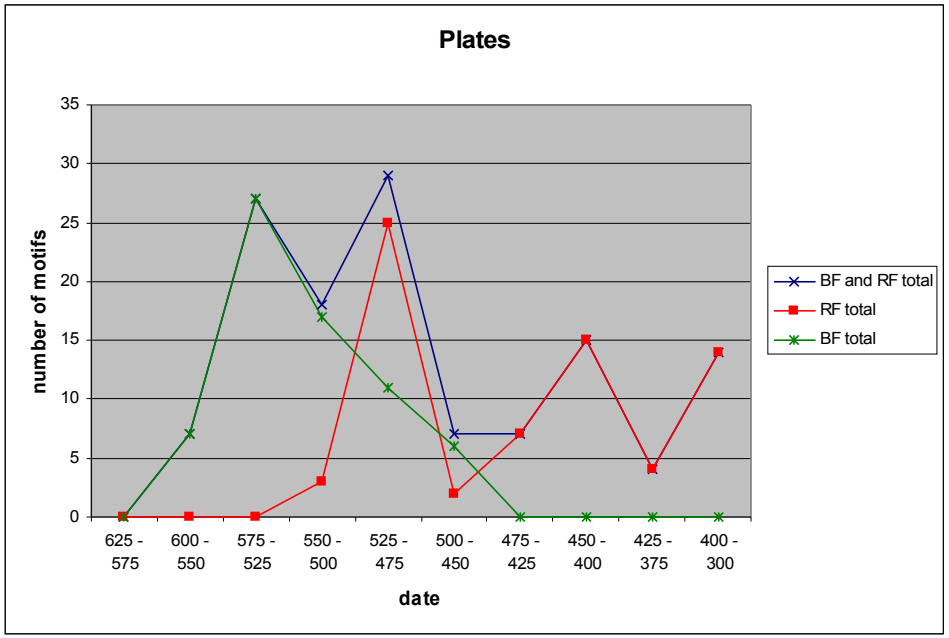


4.8.16 Power laws by date, black-figure and red-figure pyxides

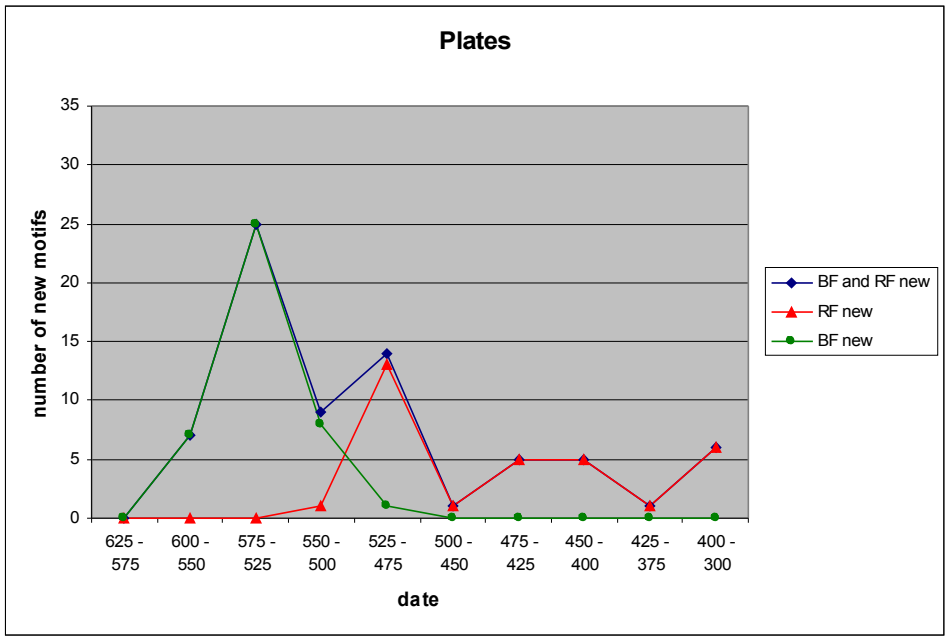
Figures Chapter 4.9 Plates



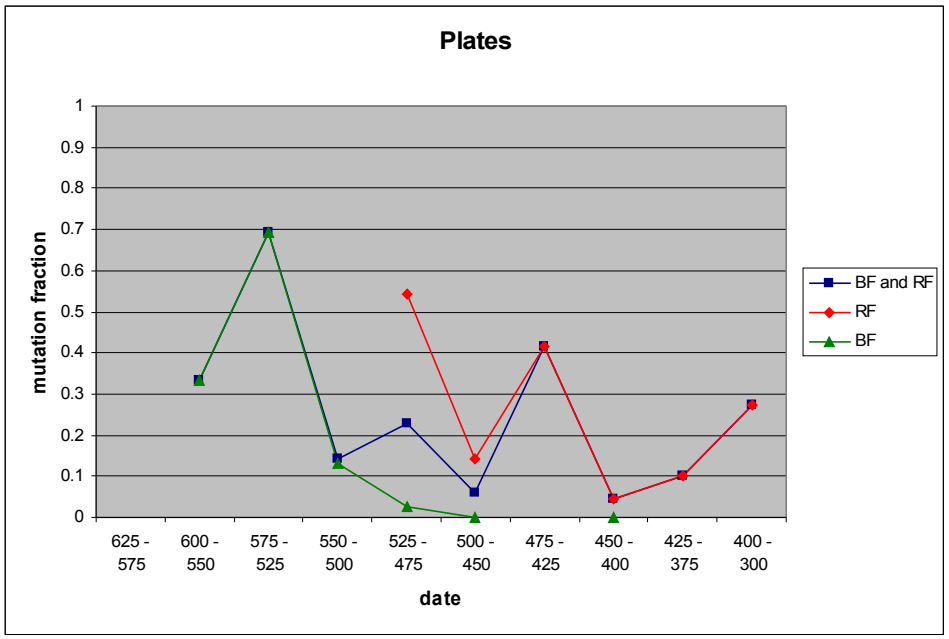
4.9.1 Sample size over time



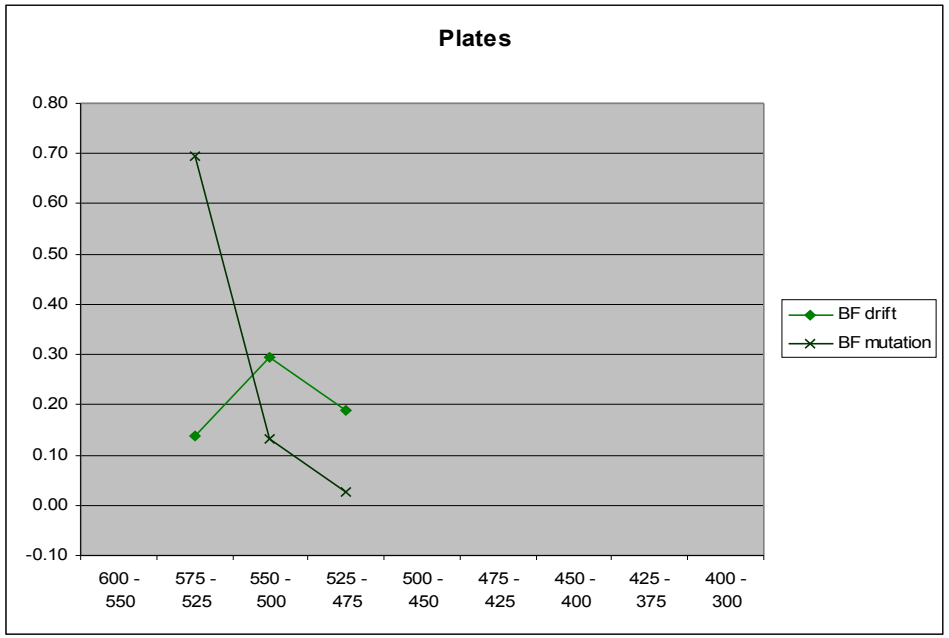
4.9.2 Motifs over time



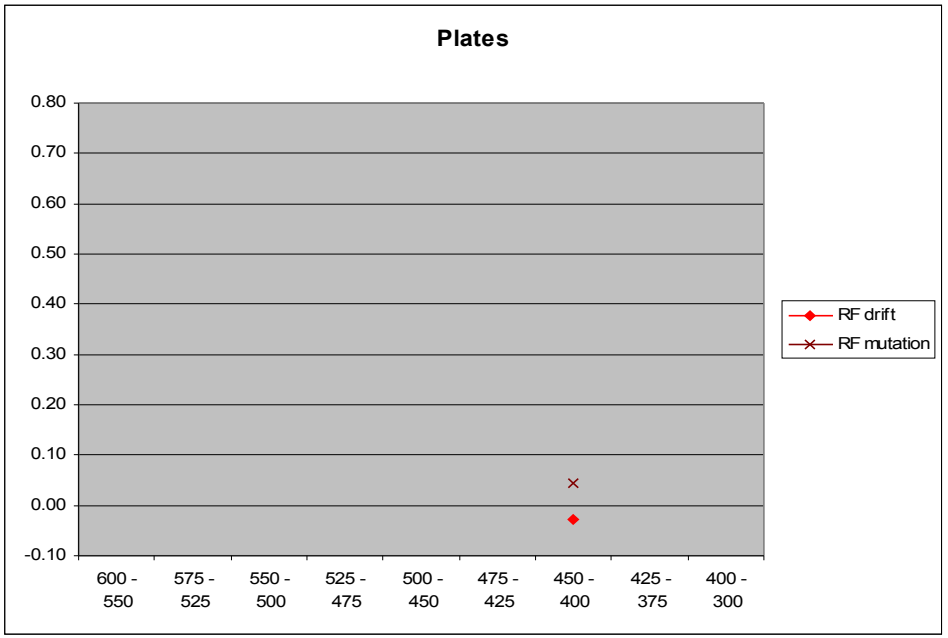
4.9.3 New motifs over time



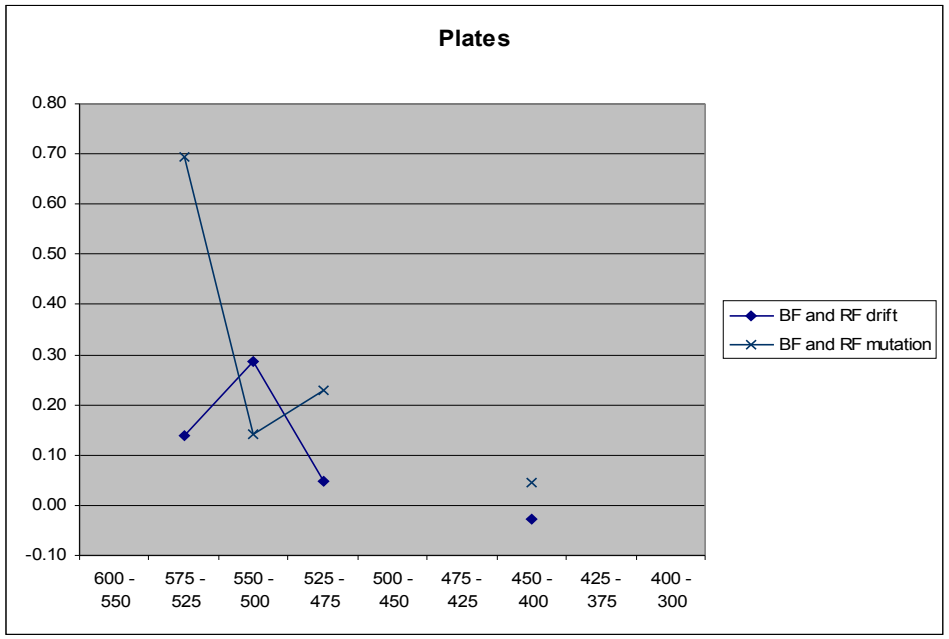
4.9.4 Mutation over time



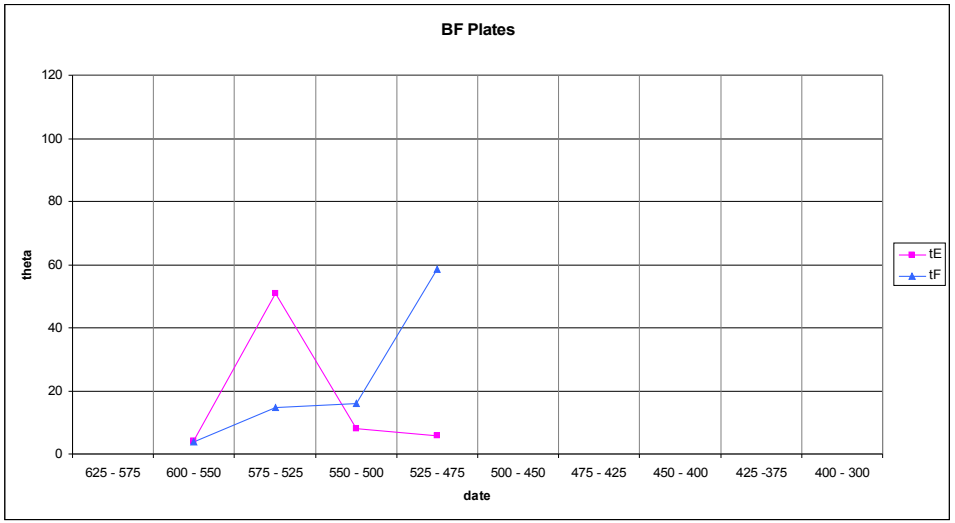
4.9.5 Drift and mutation over time, black-figure



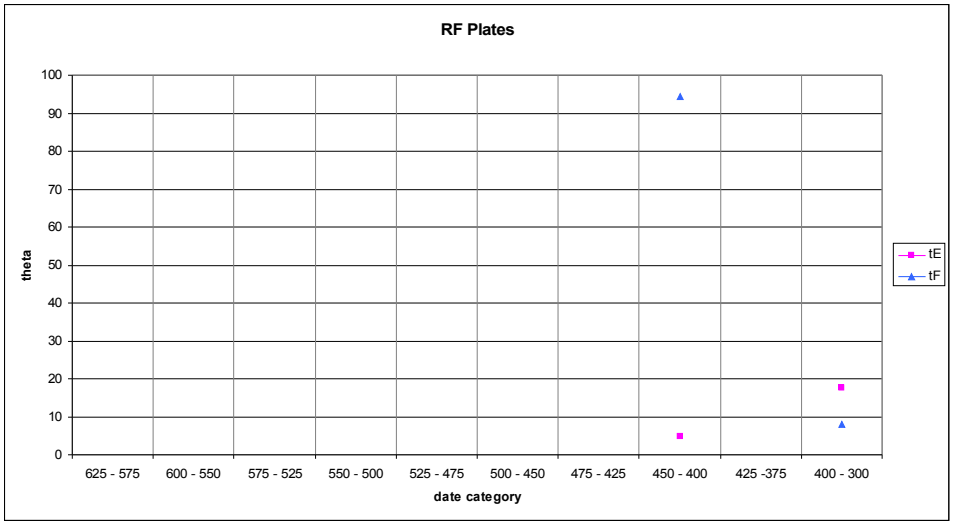
4.9.6 Drift and mutation over time, red-figure



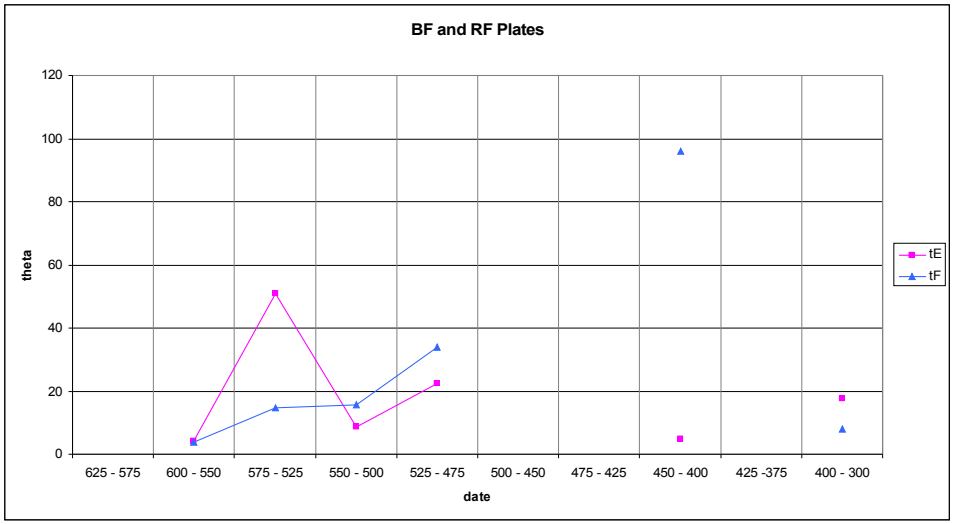
4.9.7 Drift and mutation over time, black-figure and red-figure



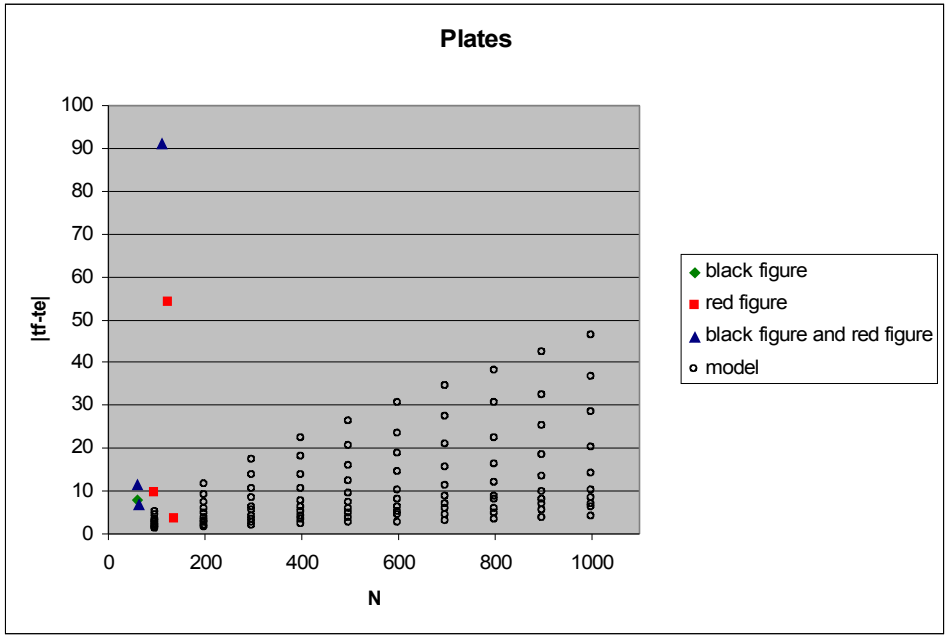
4.9.8 Estimates of theta over time, black-figure



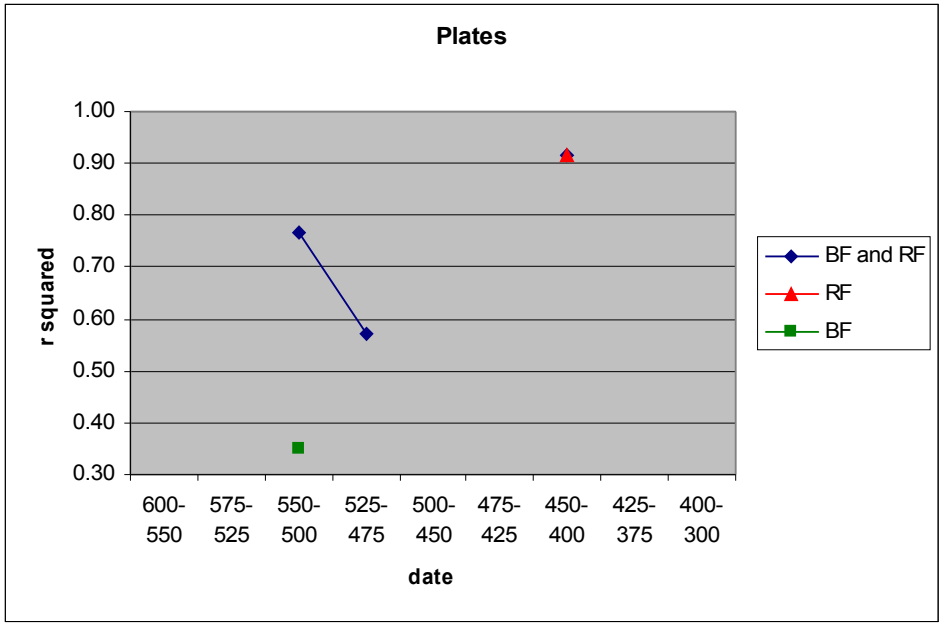
4.9.9 Estimates of theta over time, red-figure



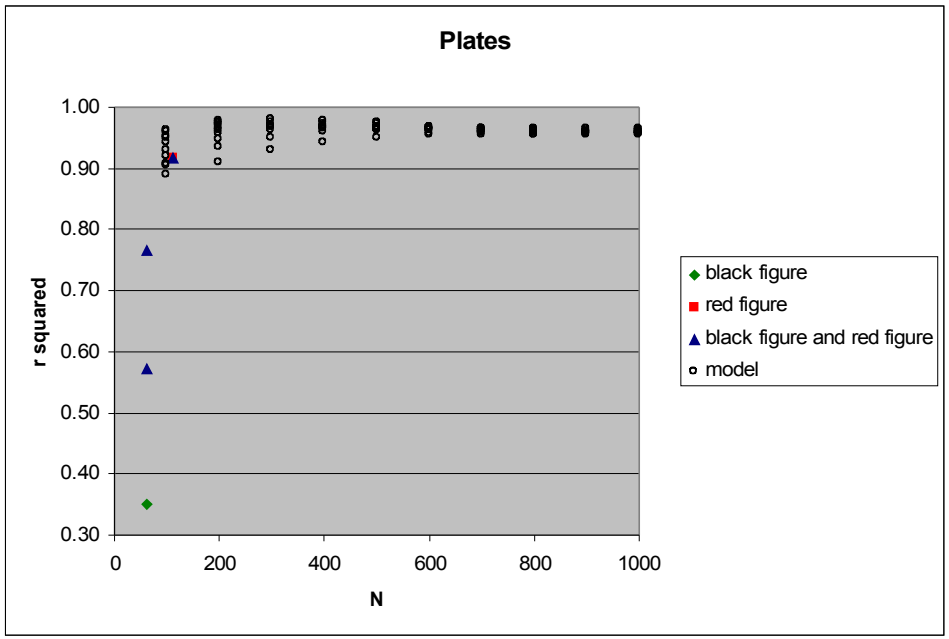
4.9.10 Estimates of theta over time, black-figure and red-figure



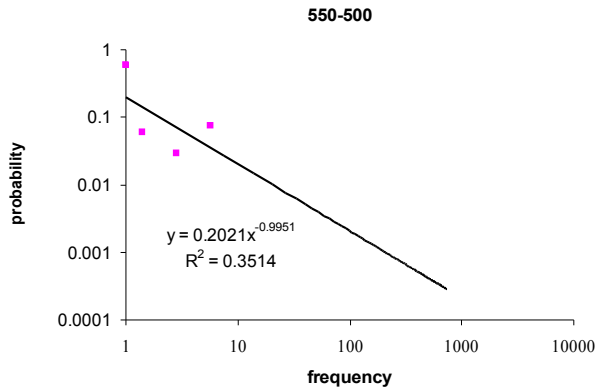
4.9.11 |tf-te| comparison, model and data



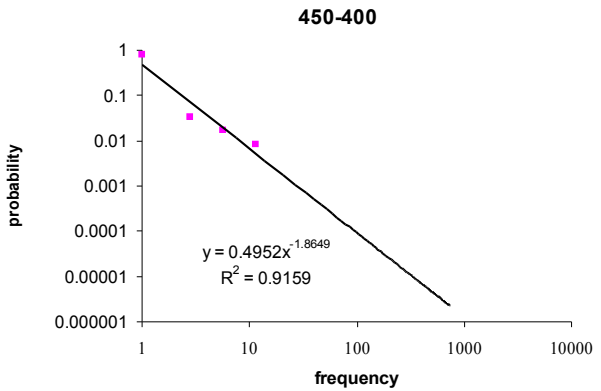
4.9.12 R squared values over time



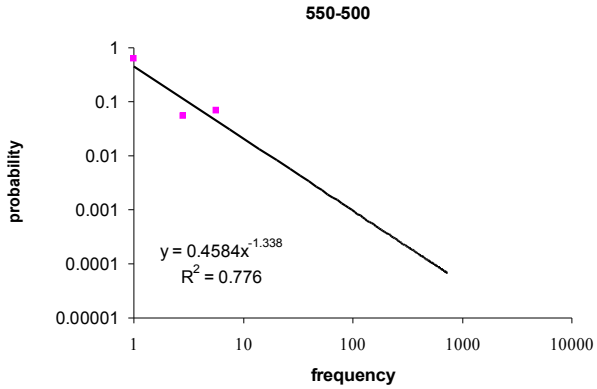
4.9.13 R squared comparison, model and data

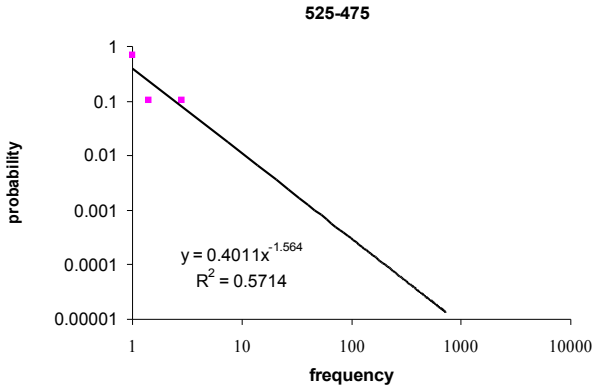


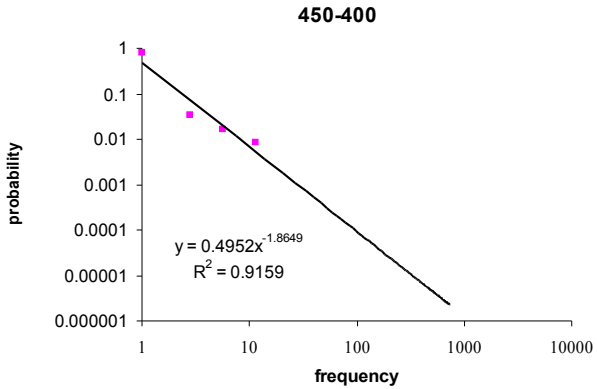
4.9.14 Power laws by date, black-figure plates



4.9.15 Power laws by date, red-figure plates

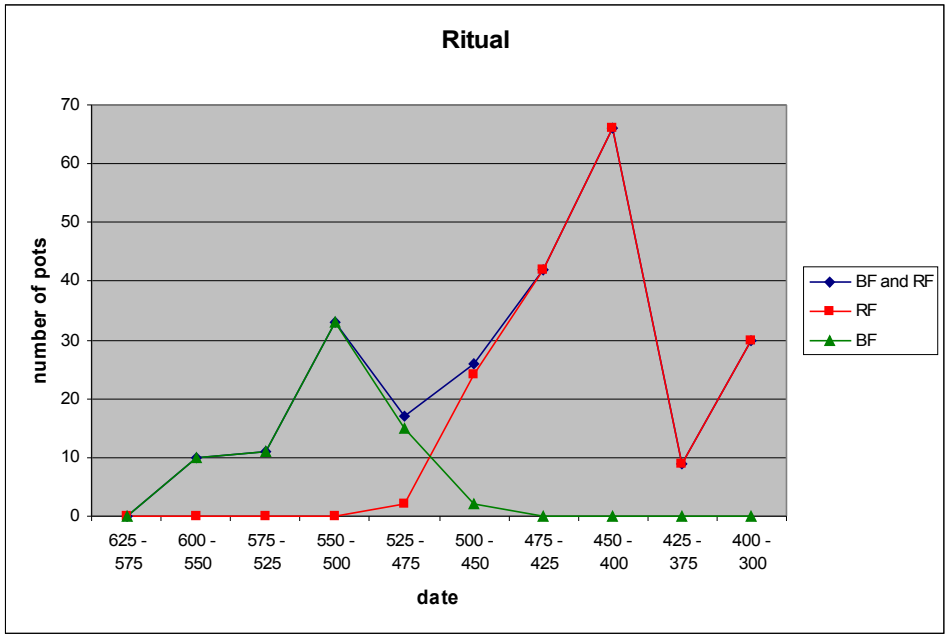




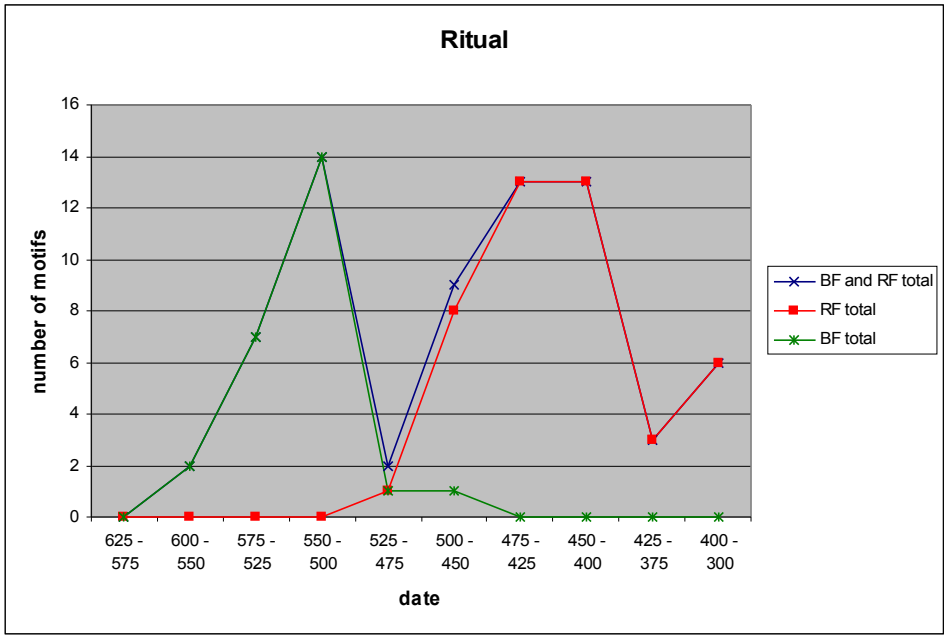


4.9.16 Power laws by date, black-figure and red-figure plates

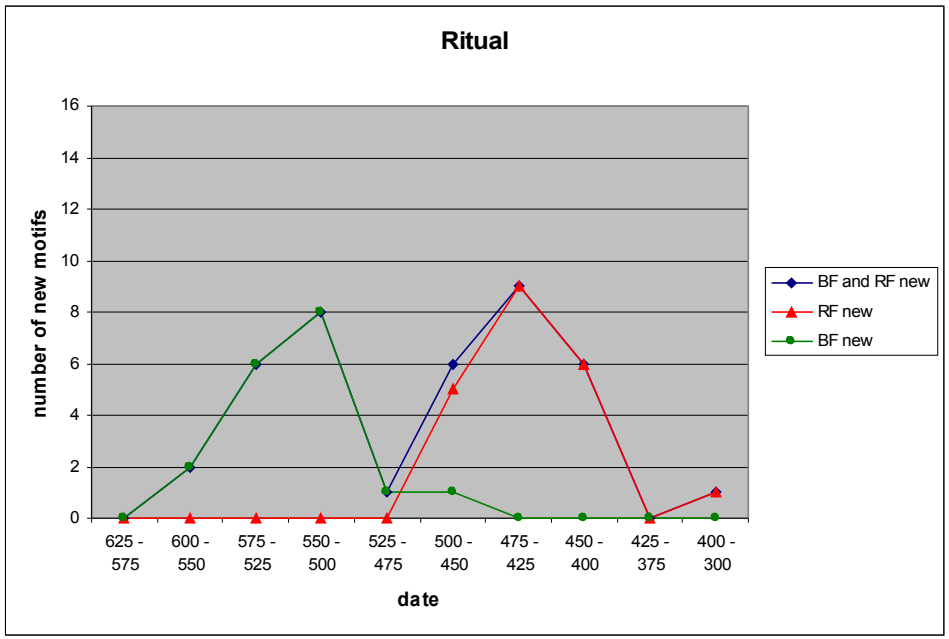
Figures Chapter 4.10 Ritual



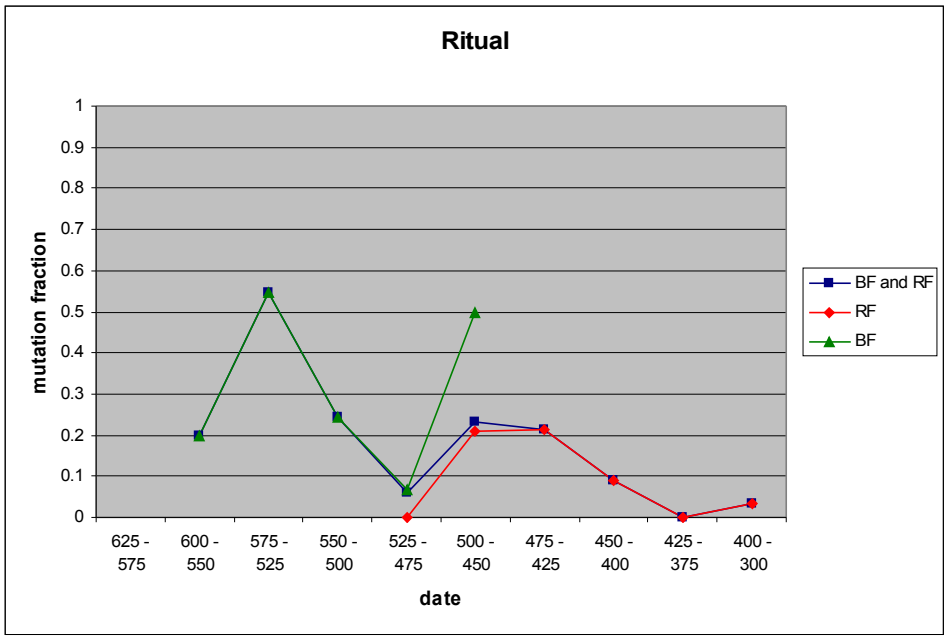
4.10.1 Sample size over time



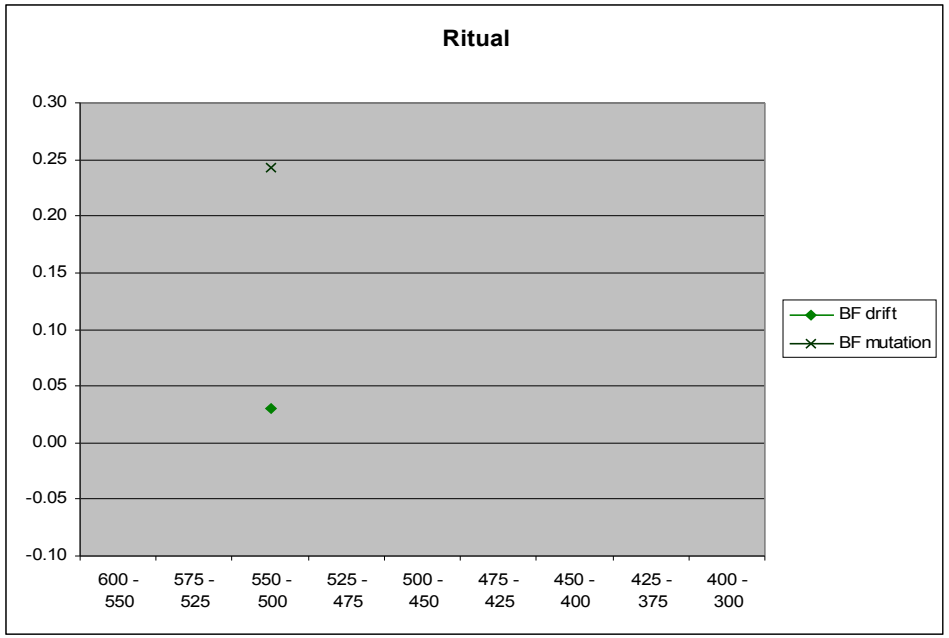
4.10.2 Motifs over time



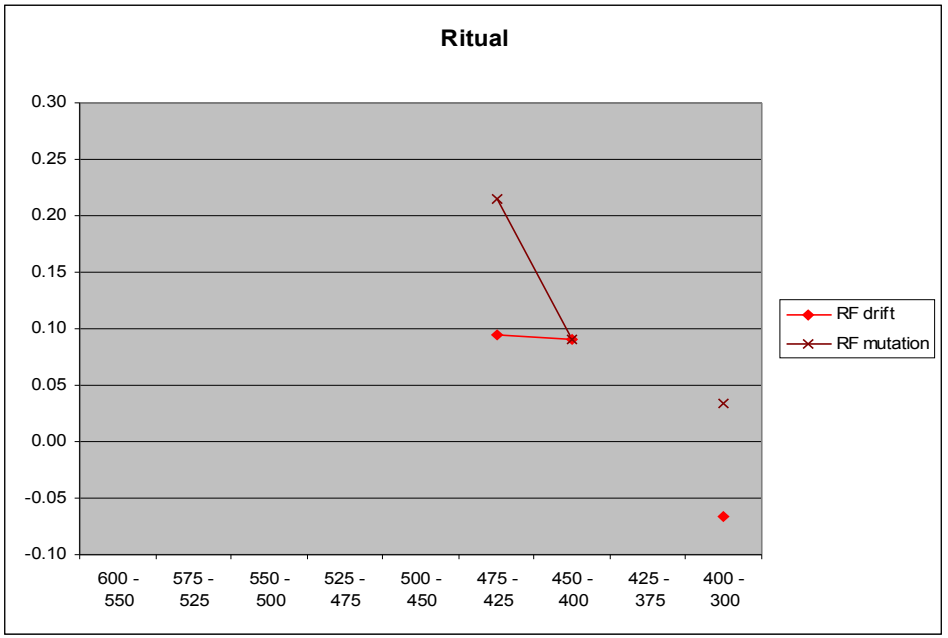
4.10.3 New motifs over time



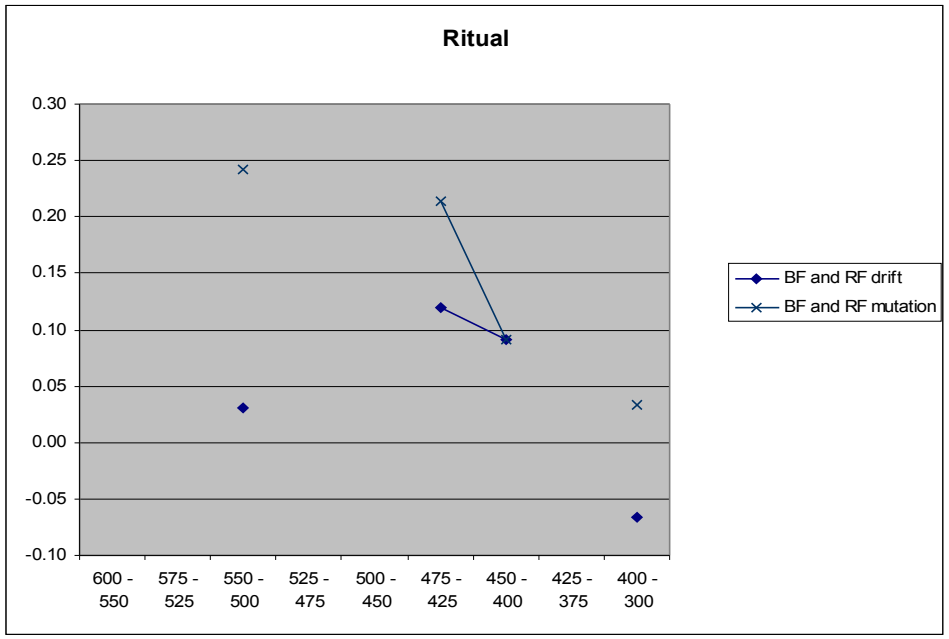
4.10.4 Mutation over time



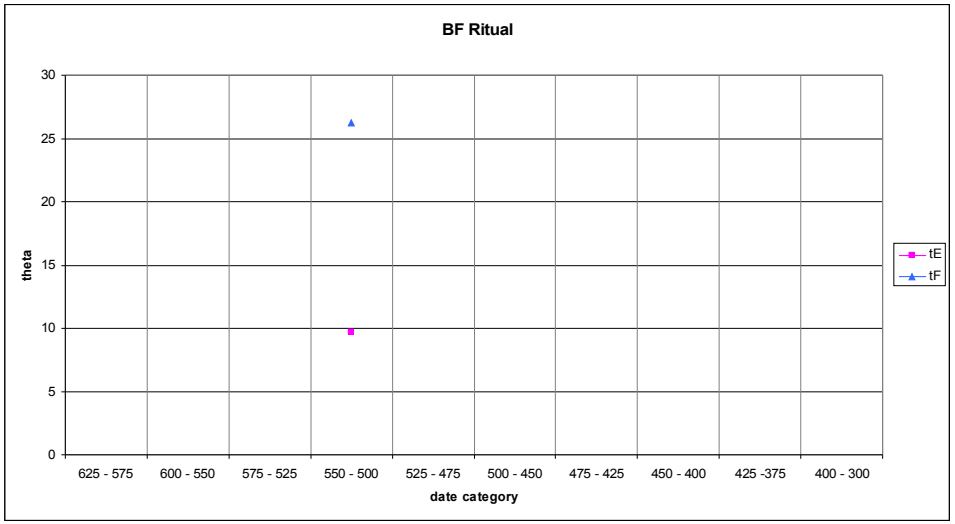
4.10.5 Drift and mutation over time, black-figure



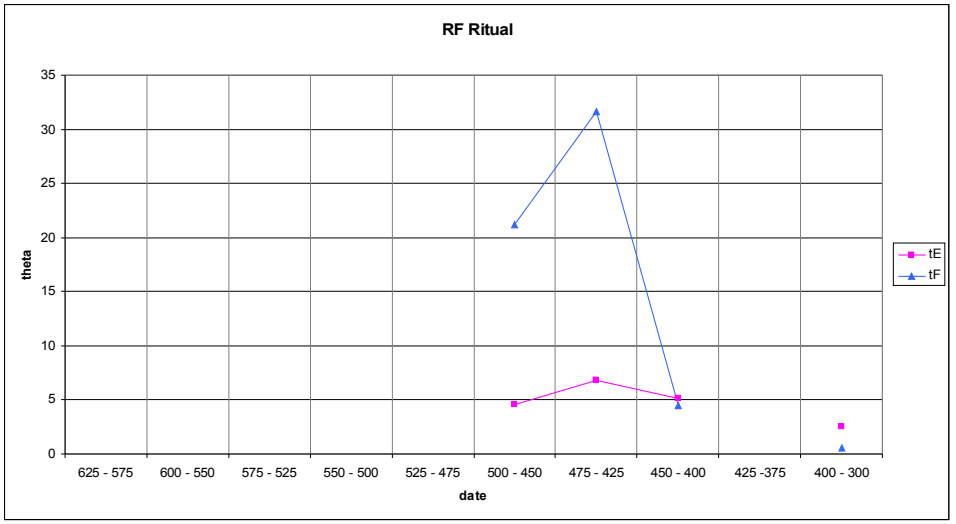
4.10.6 Drift and mutation over time, red-figure



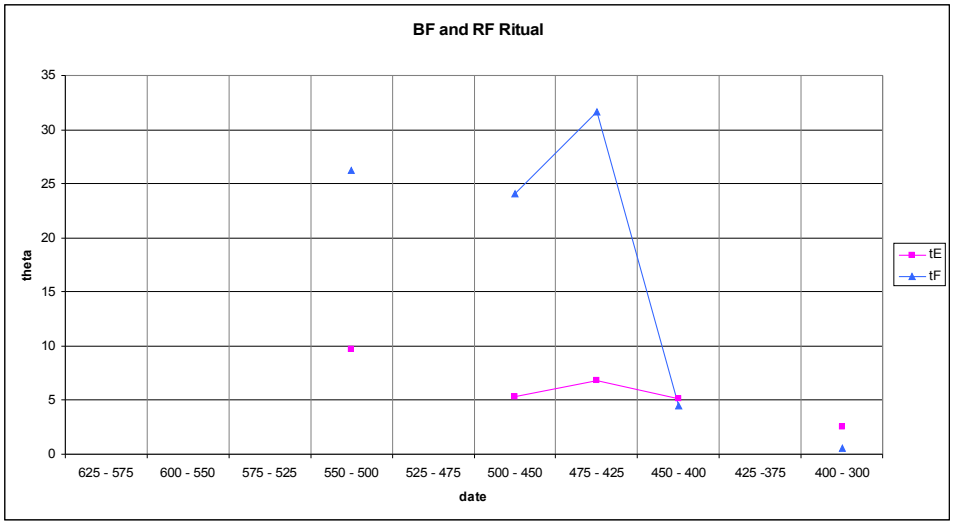
4.10.7 Drift and mutation over time, black-figure and red-figure



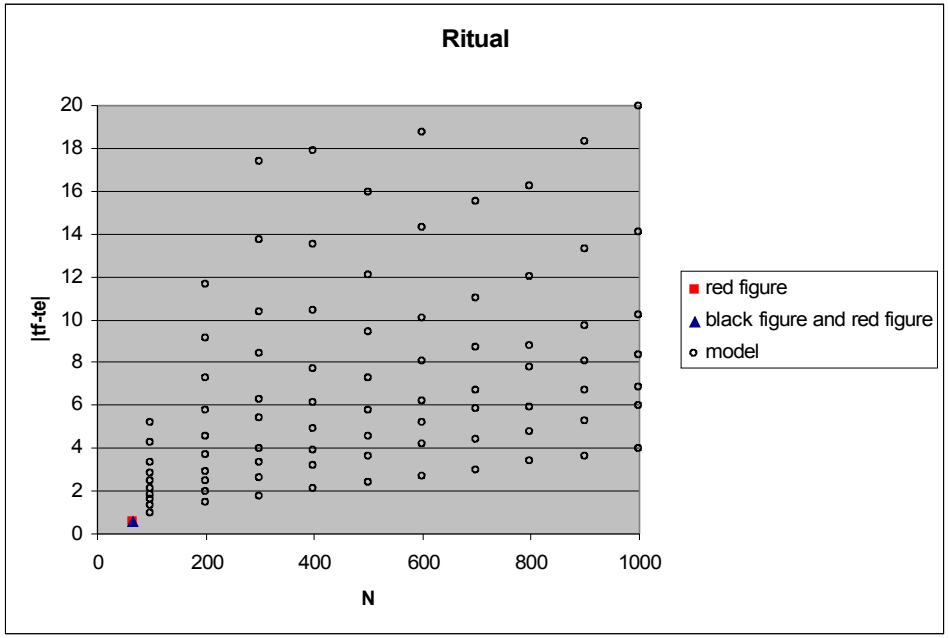
4.10.8 Estimates of theta over time, black-figure



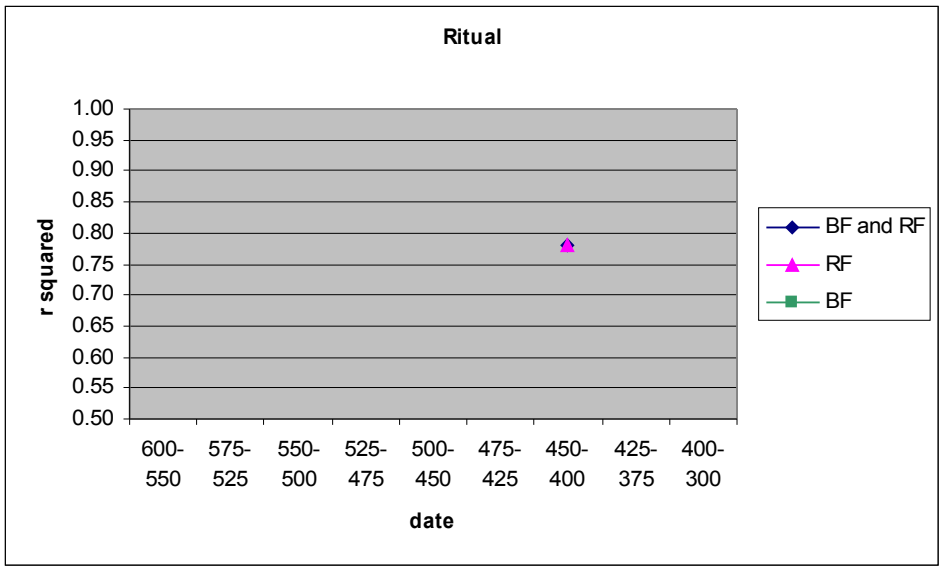
4.10.9 Estimates of theta over time, red-figure



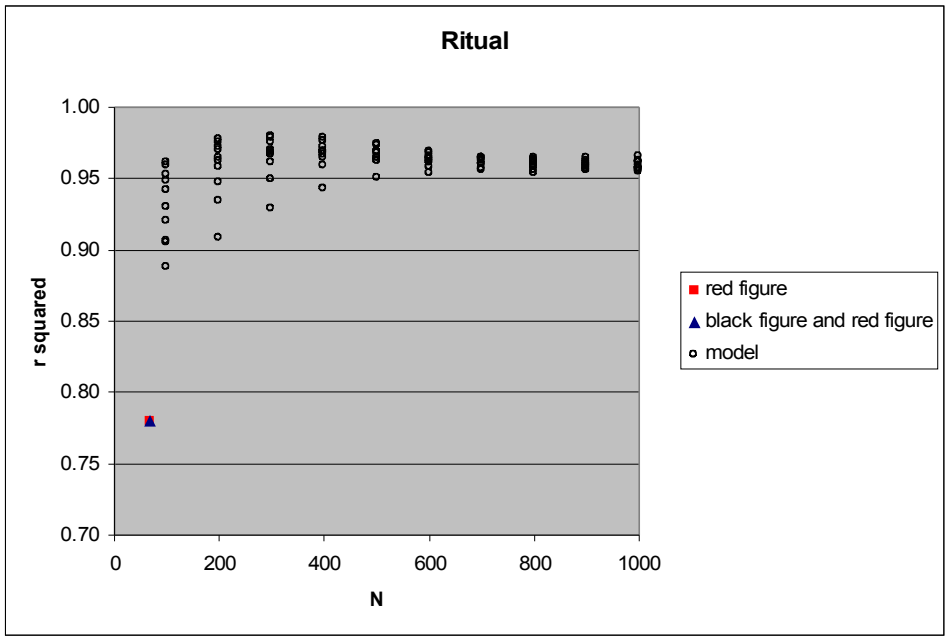
4.10.10 Estimates of theta over time, black-figure and red-figure



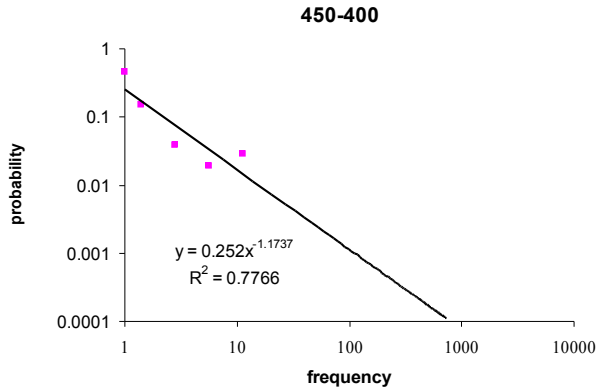
4.10.11 |tf-te| comparison, model and data



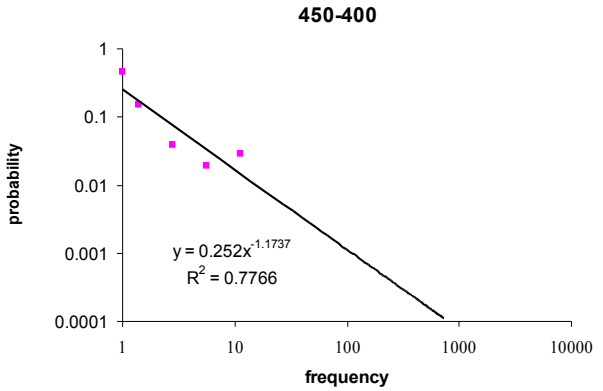
4.10.12 R squared values over time.



4.10.13 R squared comparison, model and data

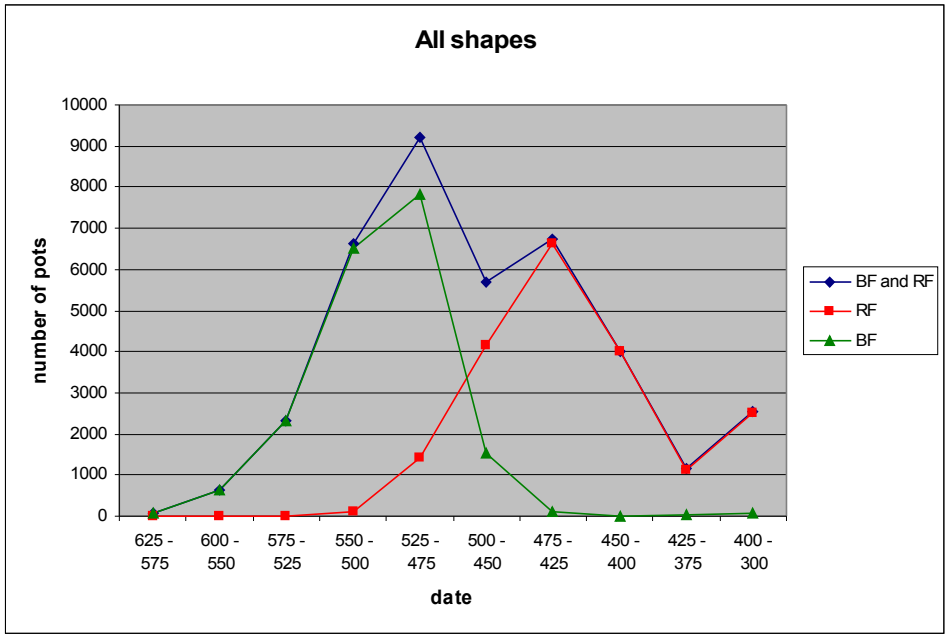


4.10.14 Power laws by date, red-figure ritual

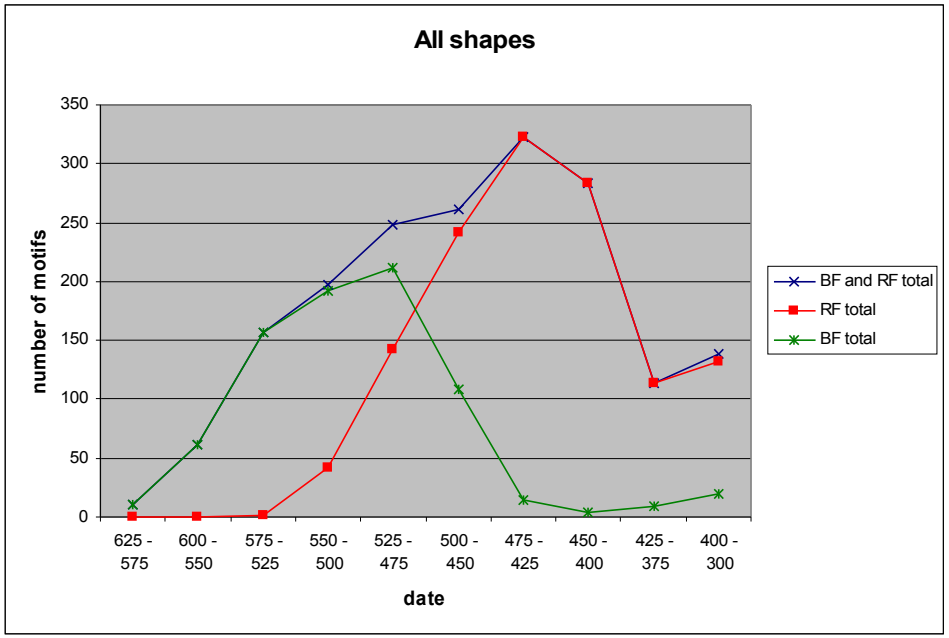


4.10.15 Power laws by date, black-figure and red-figure ritual

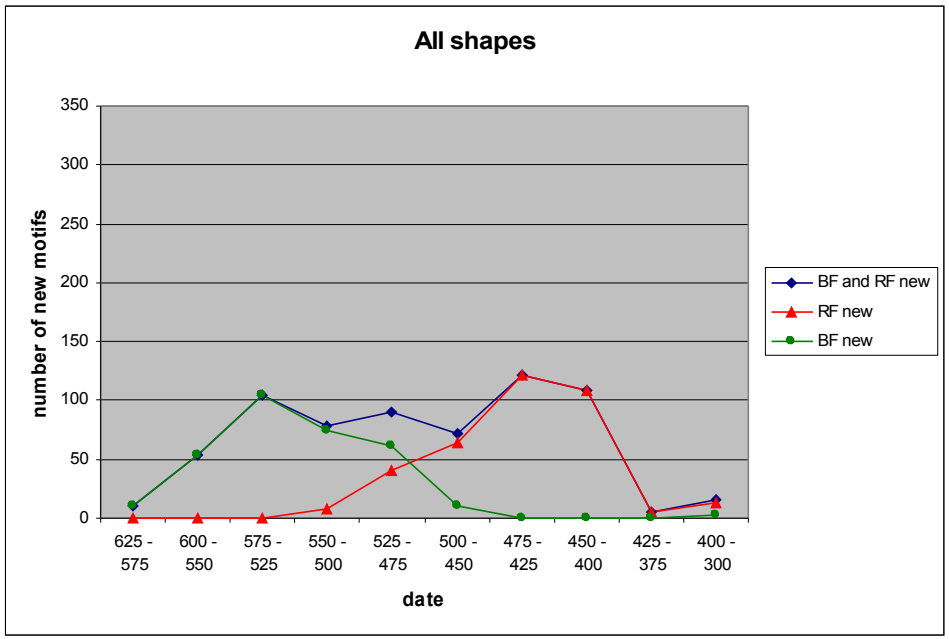
Figures Chapter 4.11 All shapes



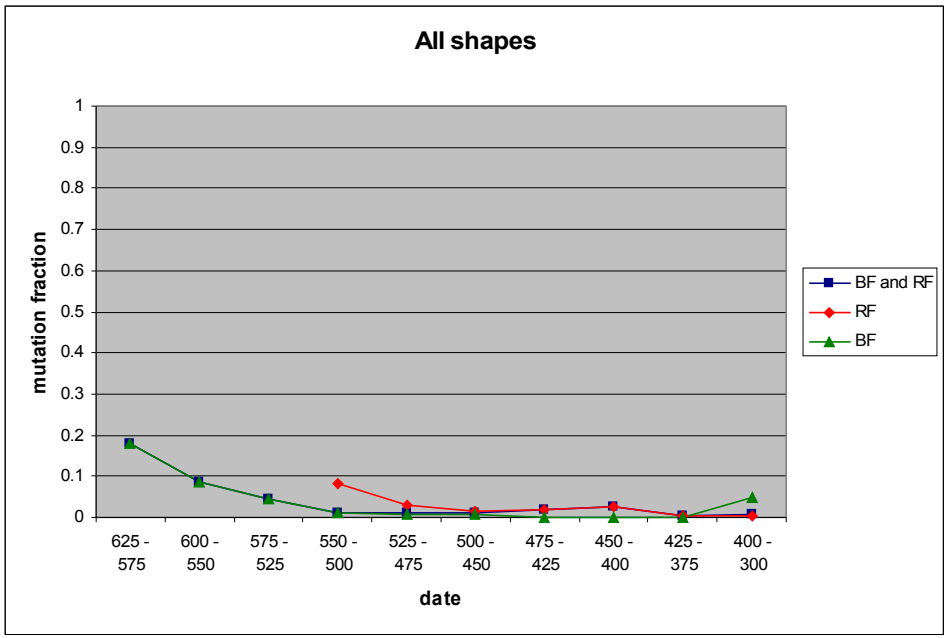
4.11.1 Sample size over time



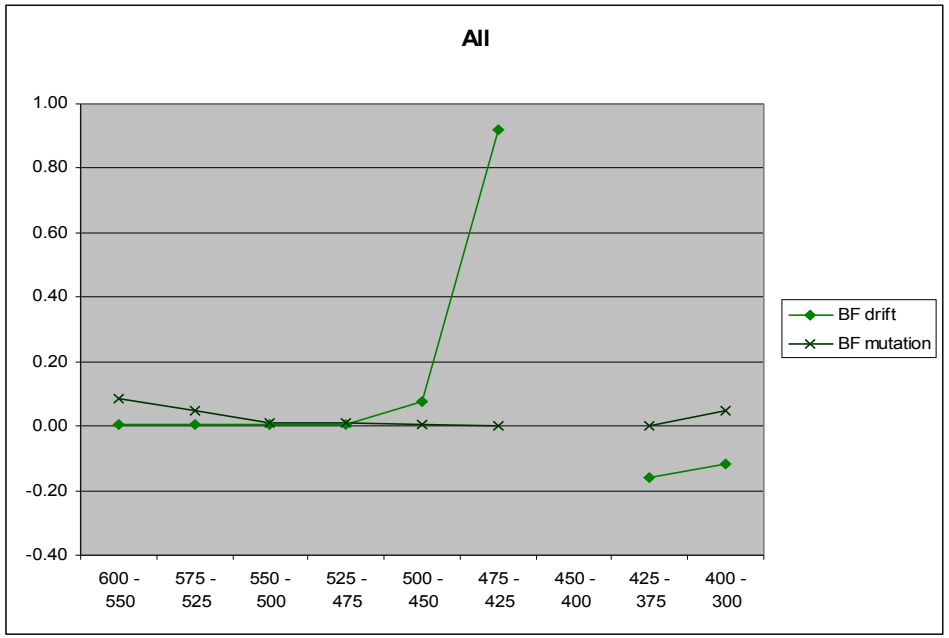
4.11.2 Motifs over time



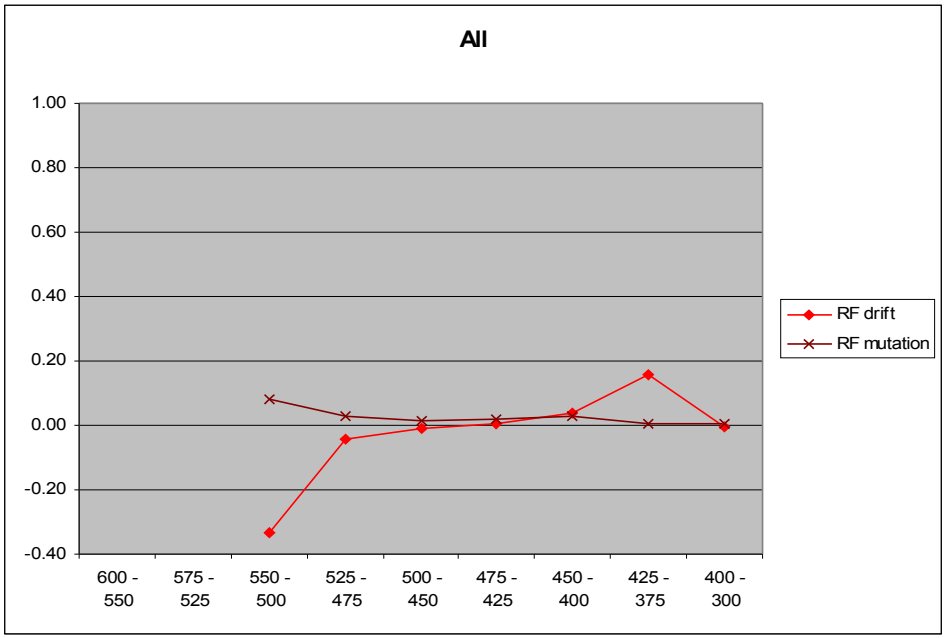
4.11.3 New motifs over time



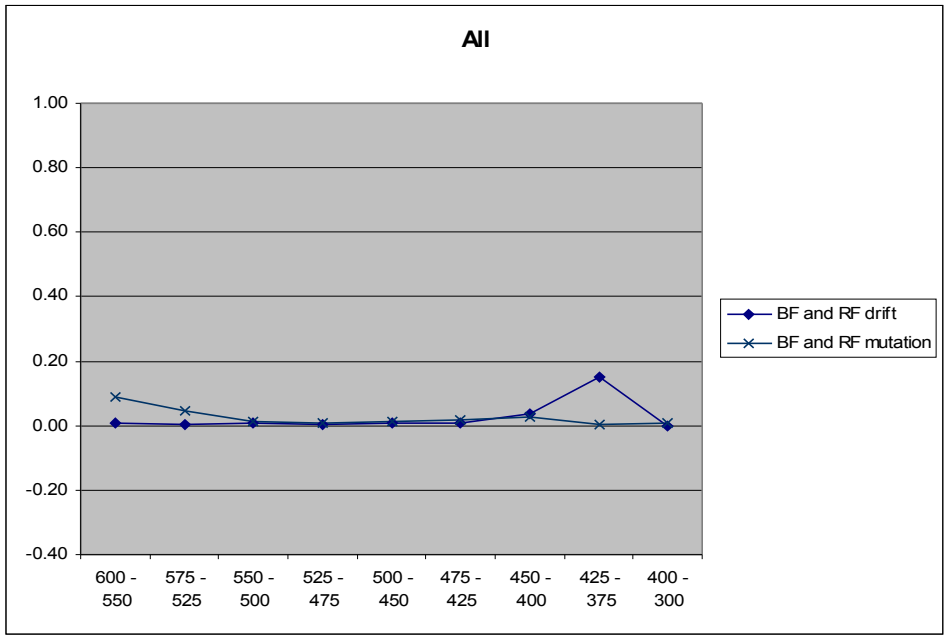
4.11.4 Mutation over time



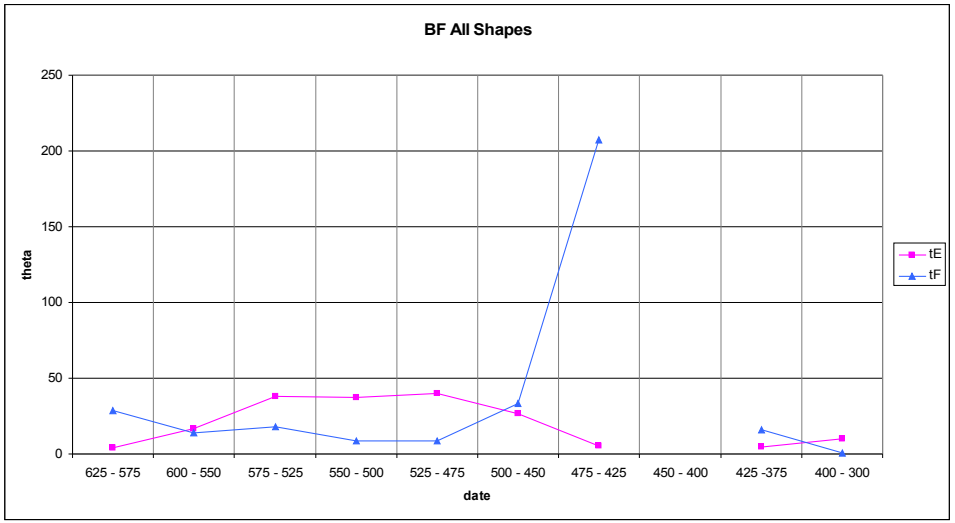
4.11.5 Drift and mutation over time, black-figure



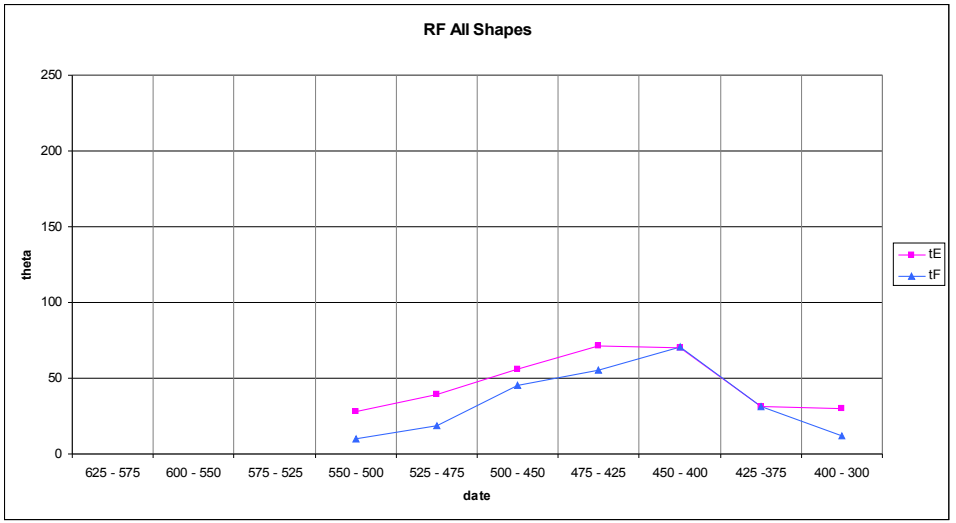
4.11.6 Drift and mutation over time, red-figure



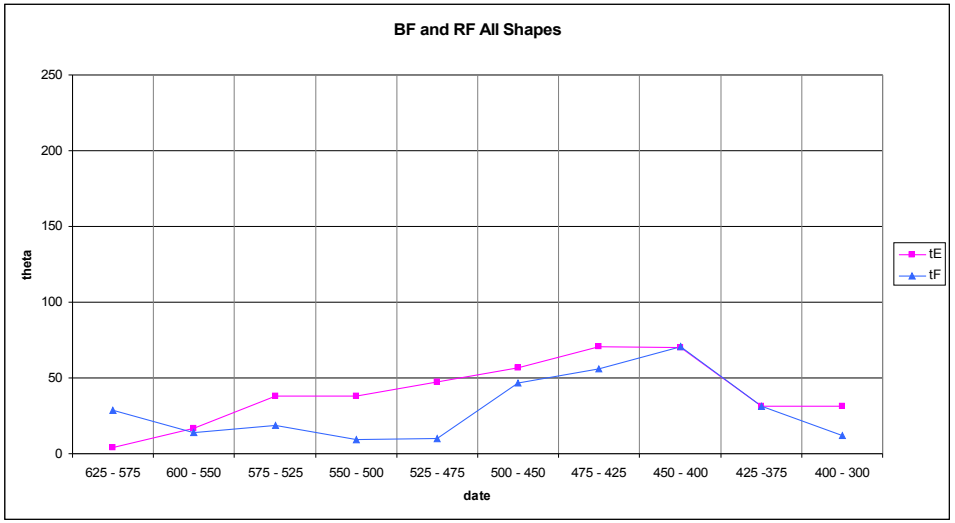
4.11.7 Drift and mutation over time, black-figure and red-figure



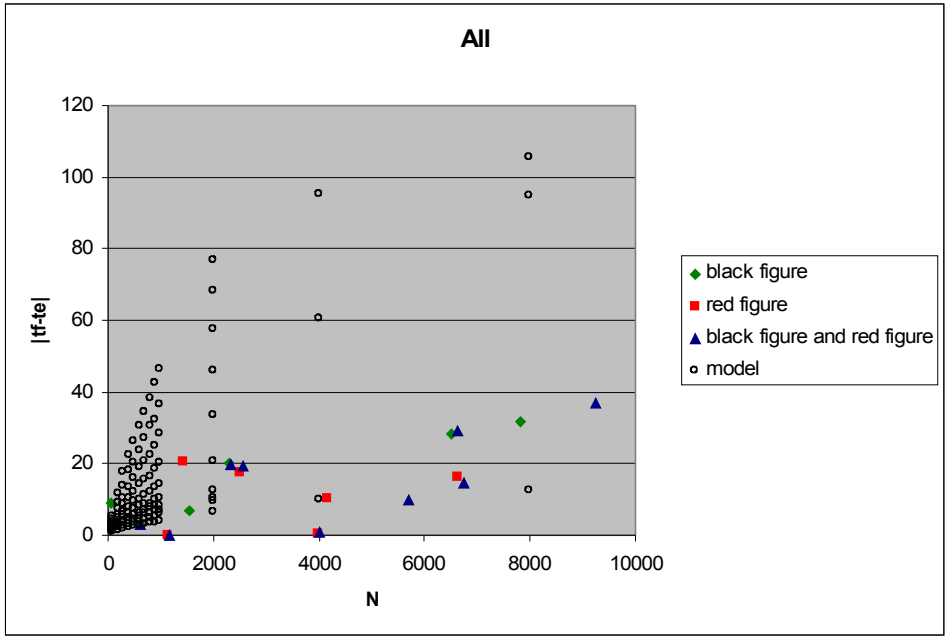
4.11.8 Estimates of theta over time, black-figure



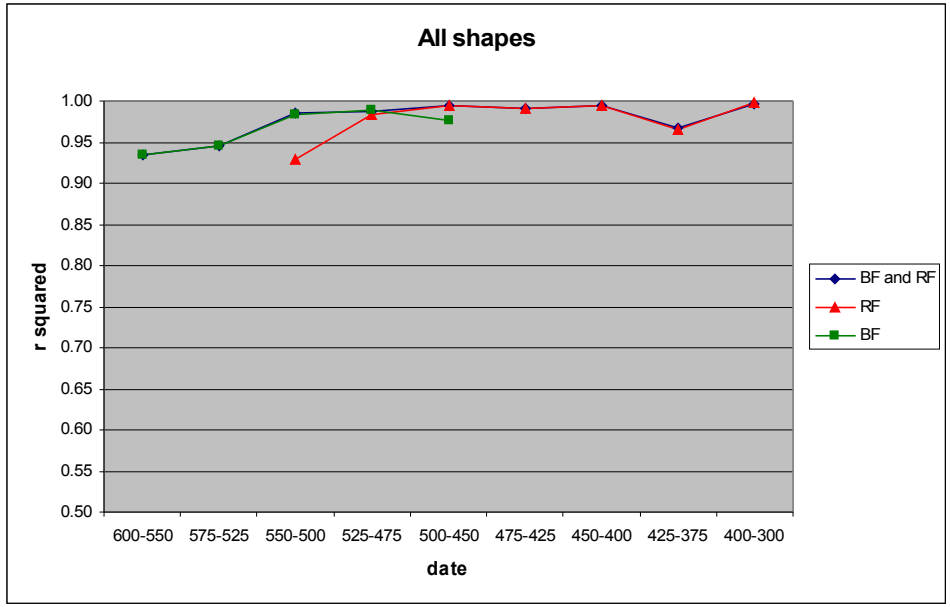
4.11.9 Estimates of theta over time, red-figure



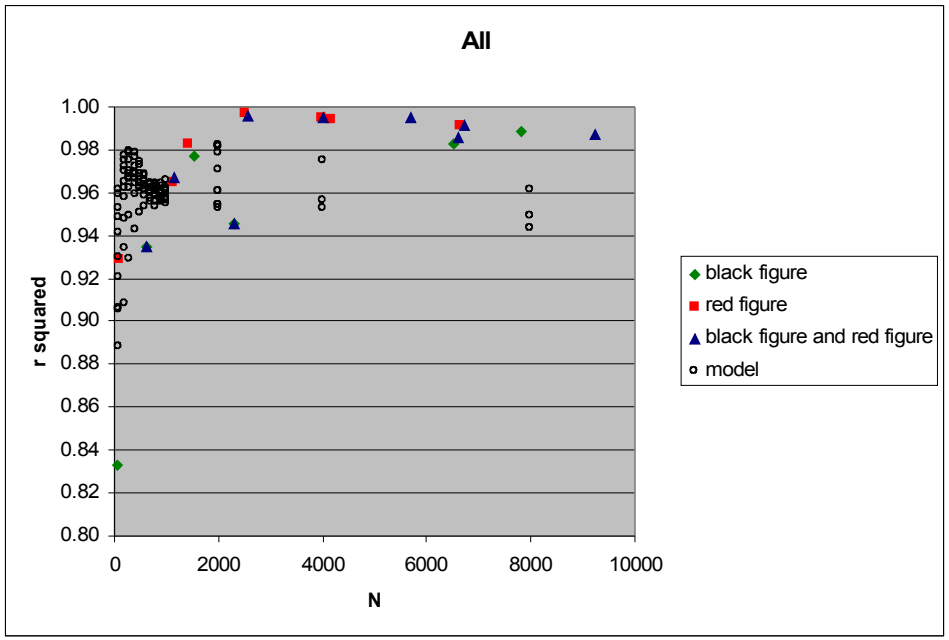
4.11.10 Estimates of theta over time, black-figure and red-figure



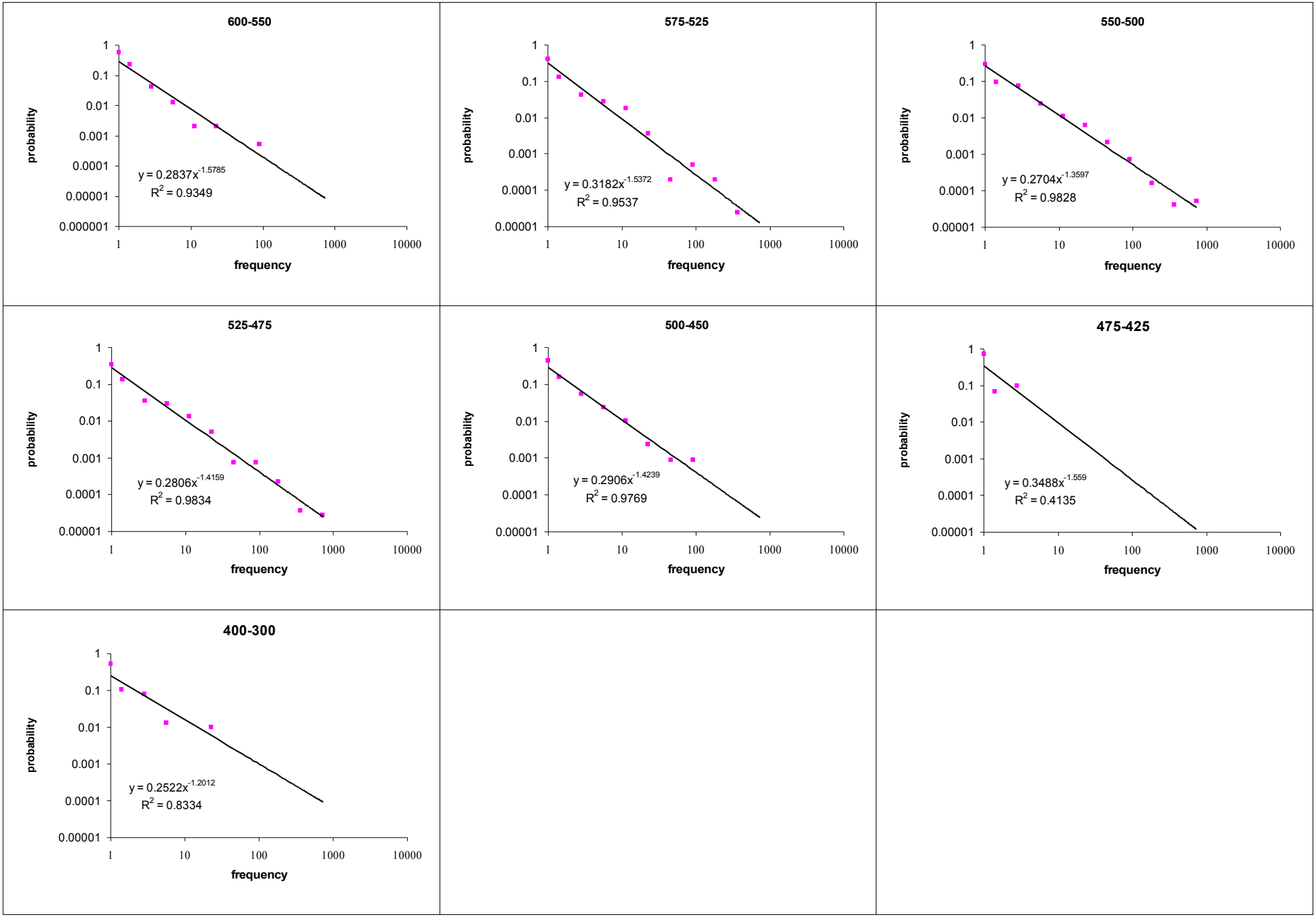
4.11.11 |tf-te| comparison, model and data



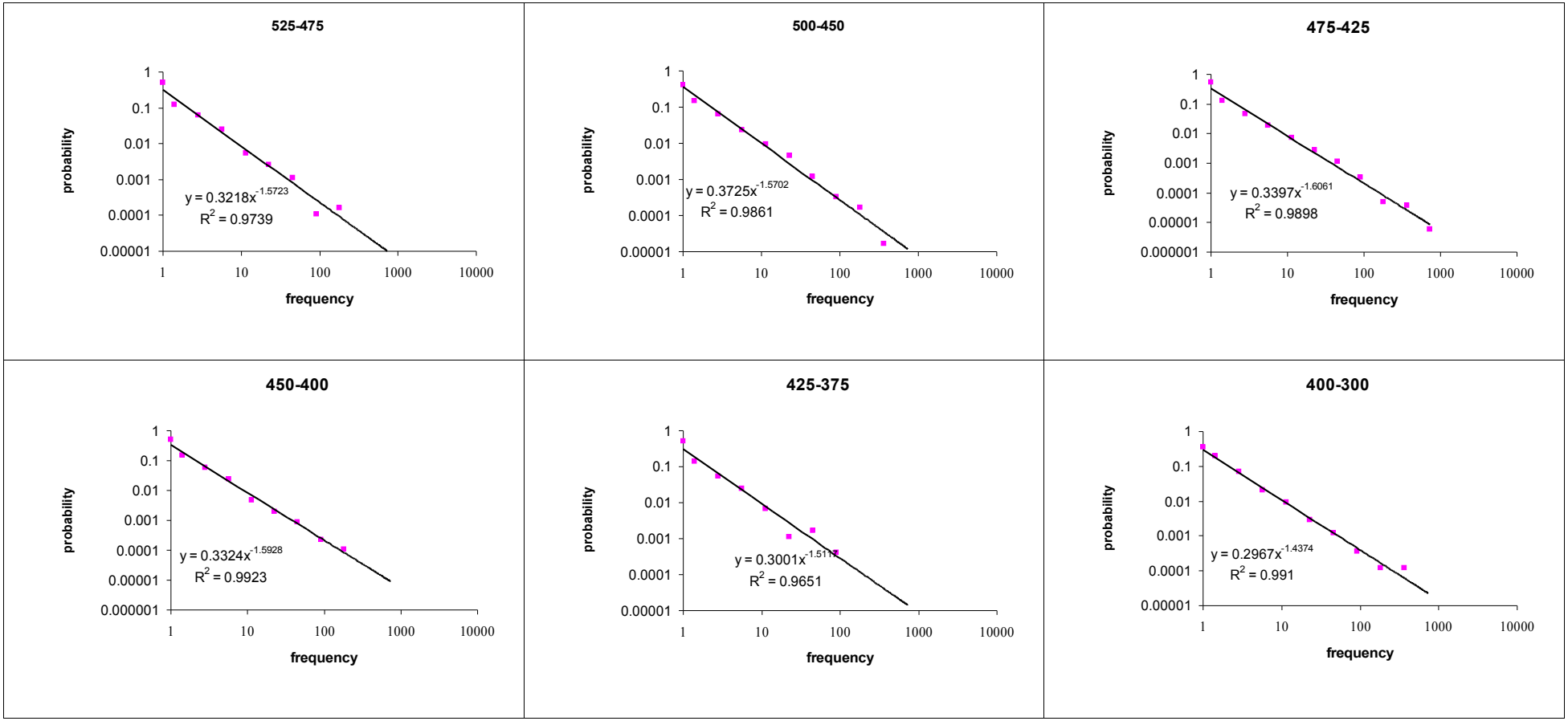
4.11.12 R squared values over time



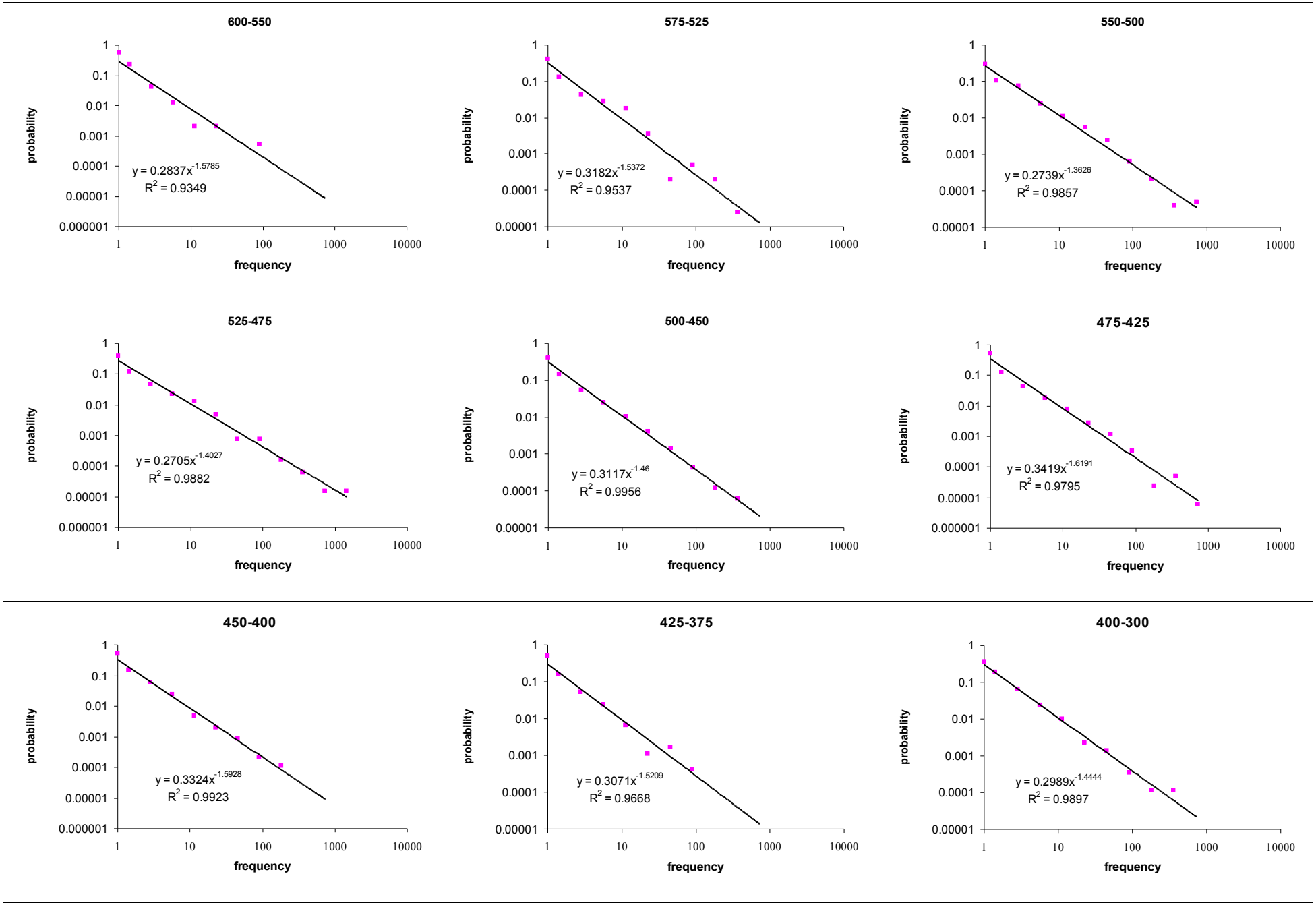
4.11.13 R squared comparison, model and data



4.11.14 Power laws by date, black-figure all shapes

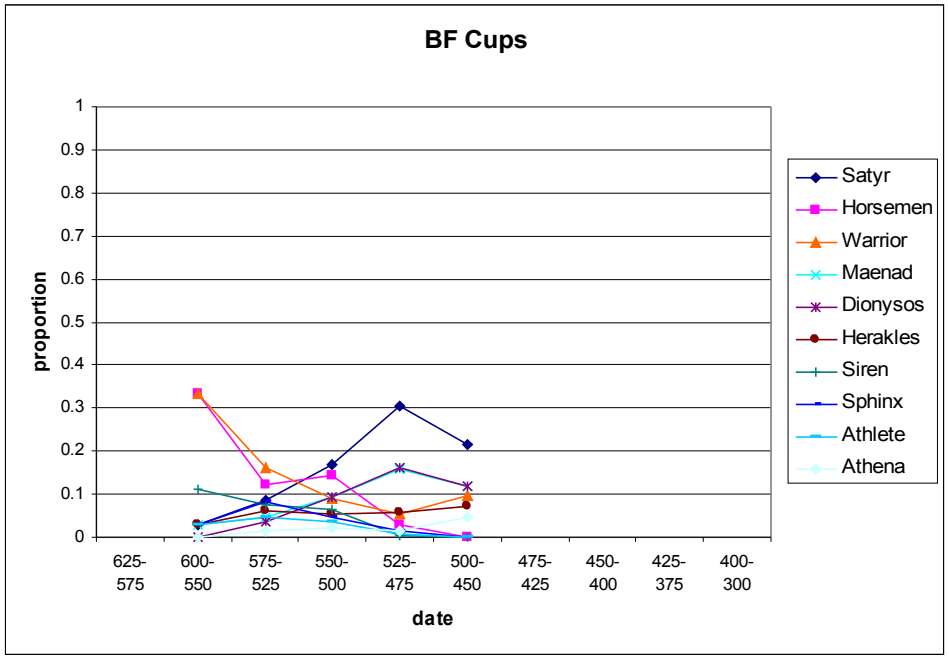


4.11.15 Power laws by date, red-figure all shapes

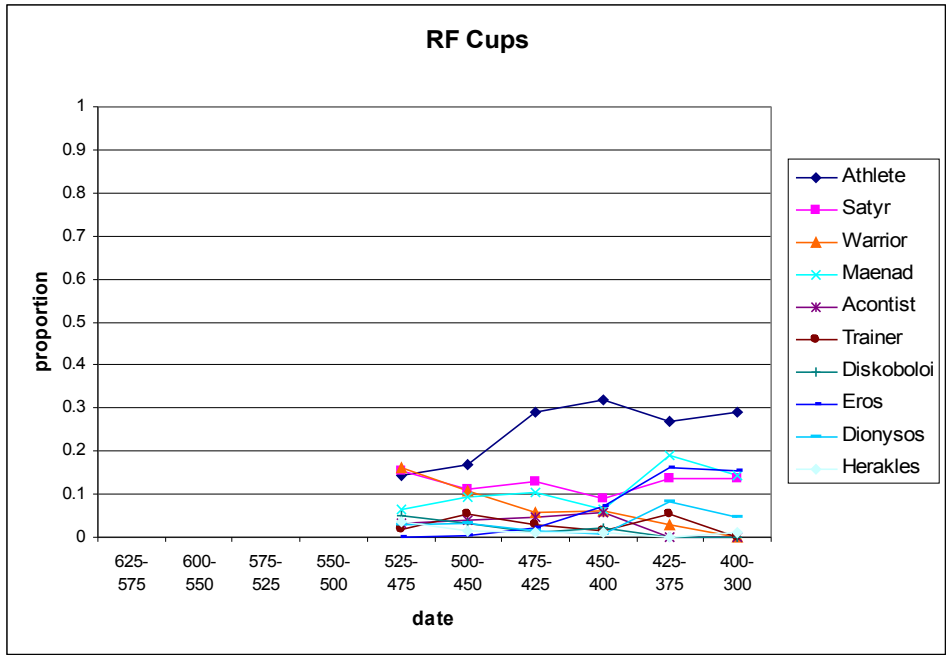


4.11.16 Power laws by date, black-figure and red-figure all shapes

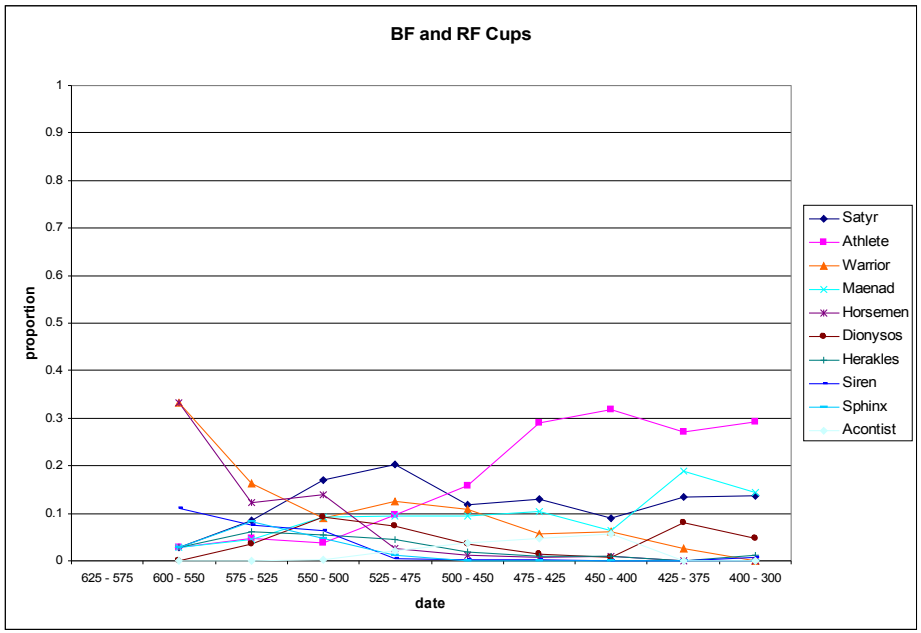
Figures Chapter 5



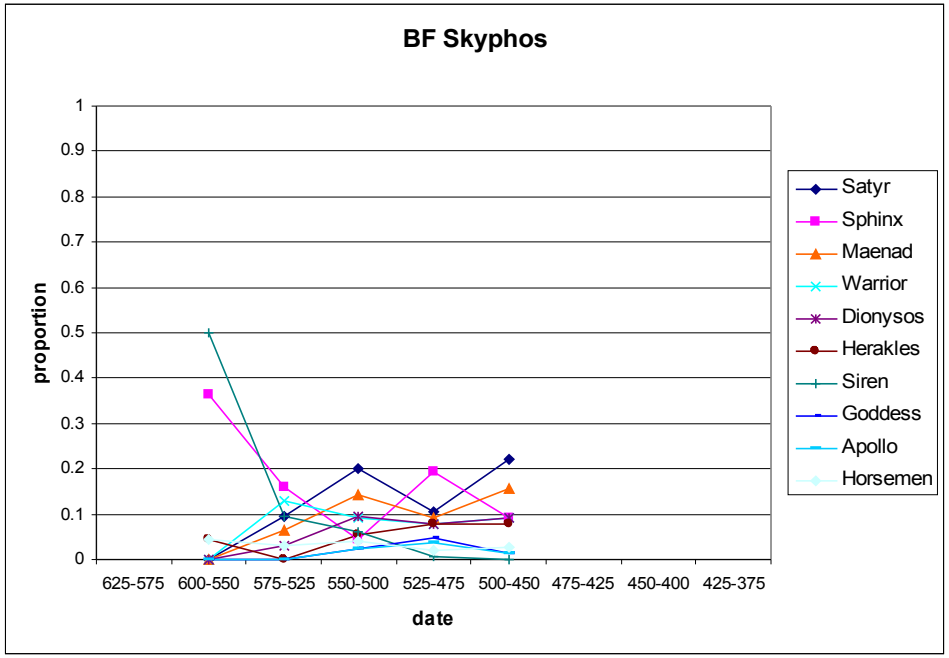
5.1 Black-figure cups. Proportion of top 10 motifs over time.



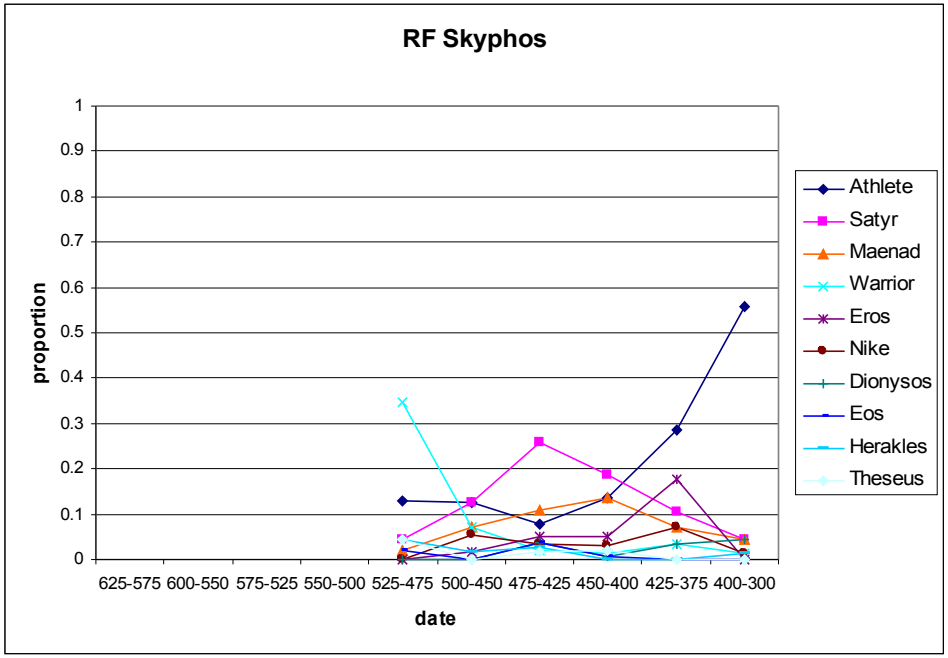
5.2 Red-figure cups. Proportion of top 10 motifs over time.



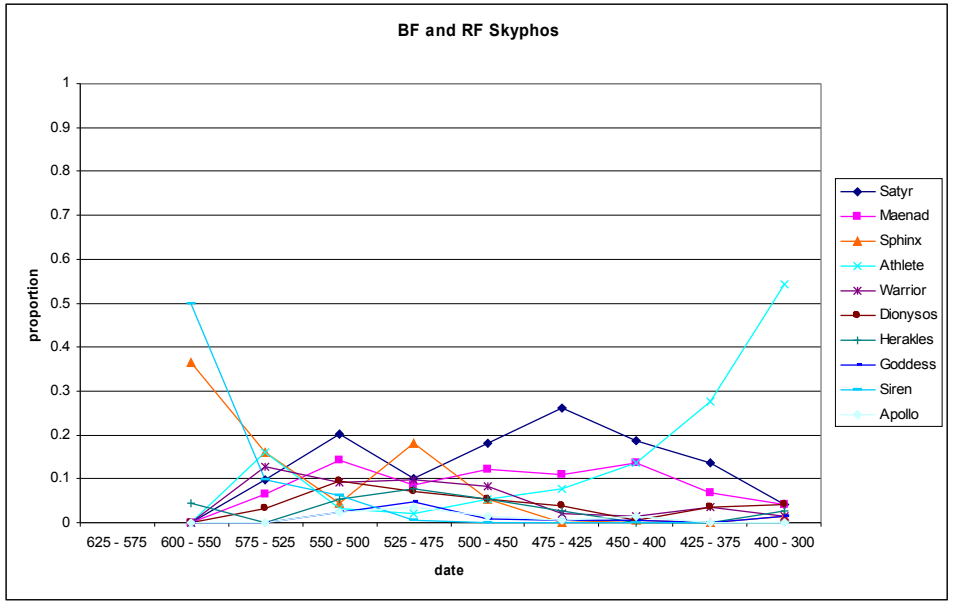
5.3 Black-figure and red-figure cups. Proportion of top 10 motifs over time.



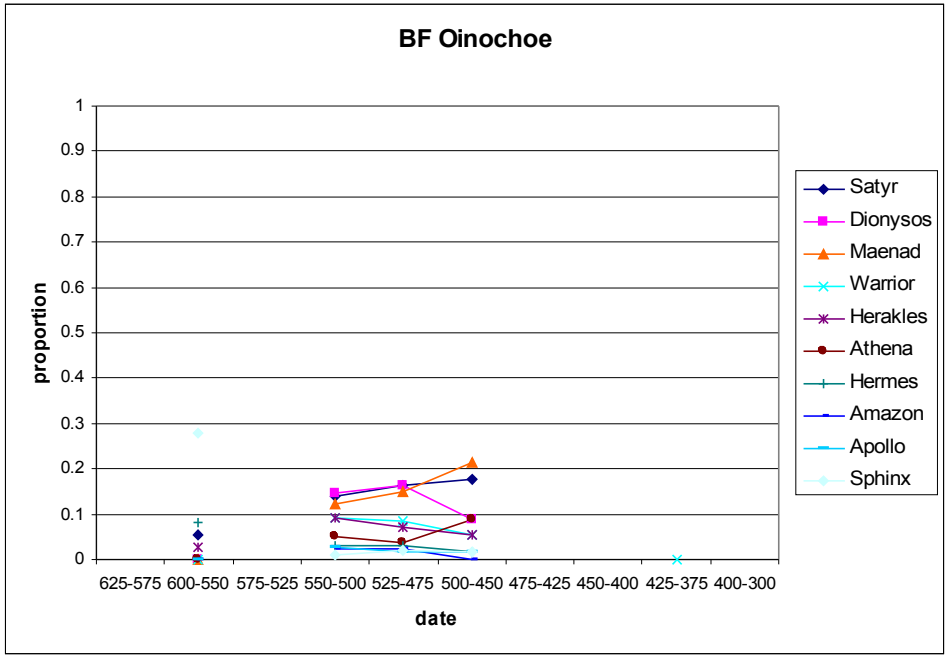
5.4 Black-figure skyphos. Proportion of top 10 motifs over time.



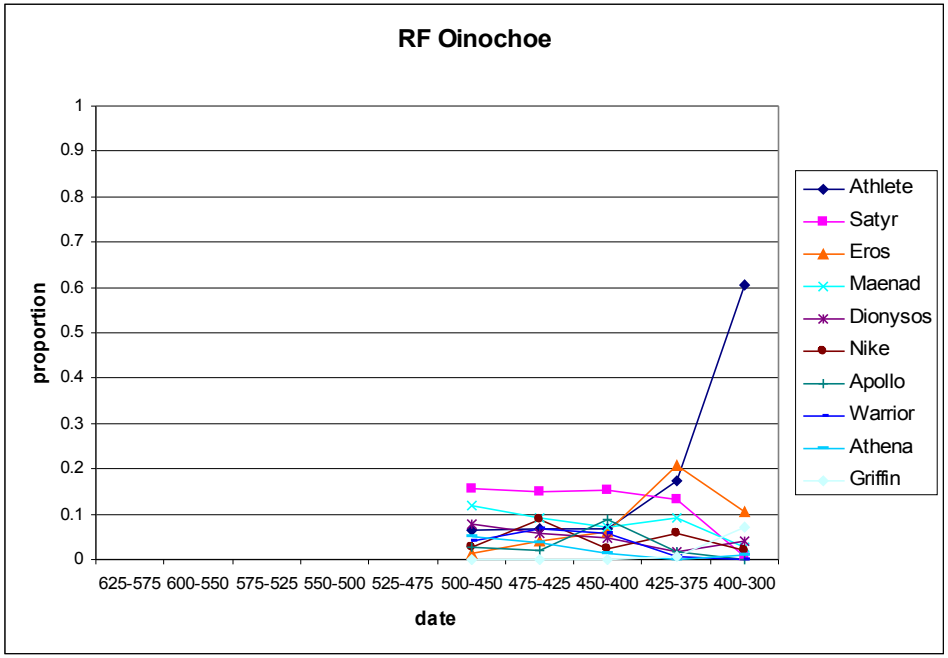
5.5 Red-figure skyphos. Proportion of top 10 motifs over time.



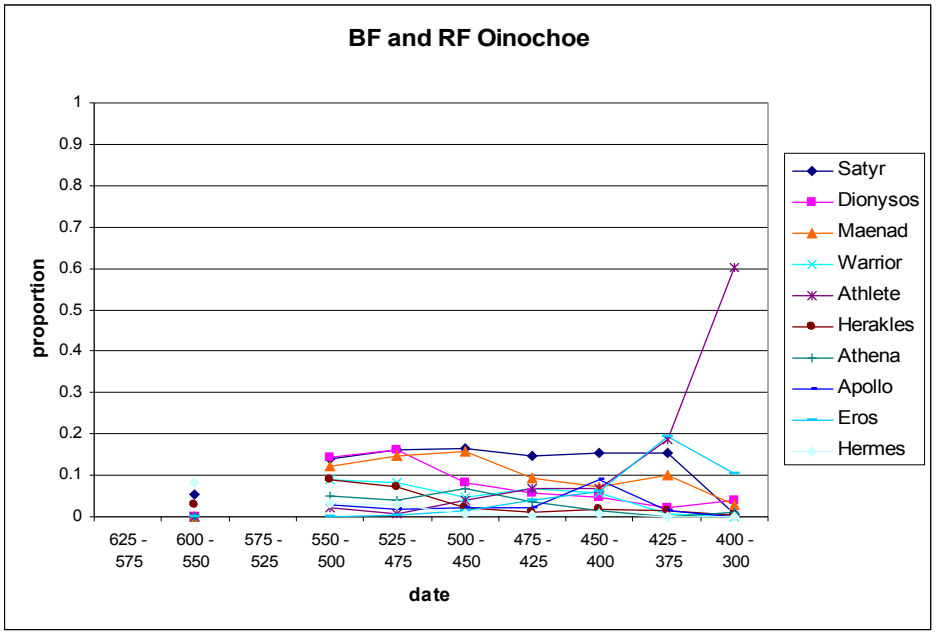
5.6 Black-figure and red-figure skyphos. Proportion of top 10 motifs over time.



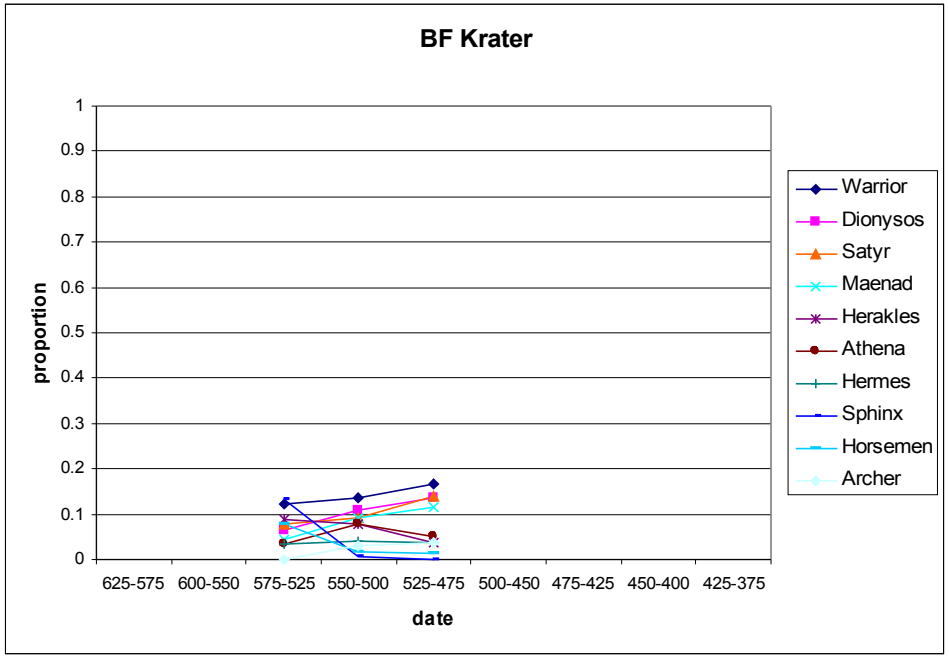
5.7 Black-figure oinochoe. Proportion of top 10 motifs over time.



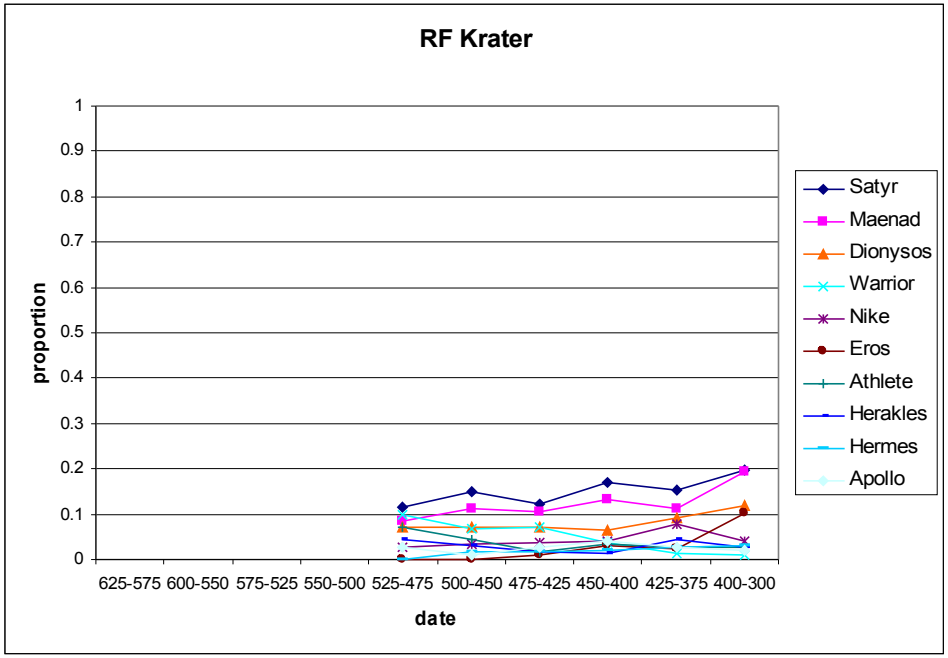
5.8 Red-figure oinochoe. Proportion of top 10 motifs over time.



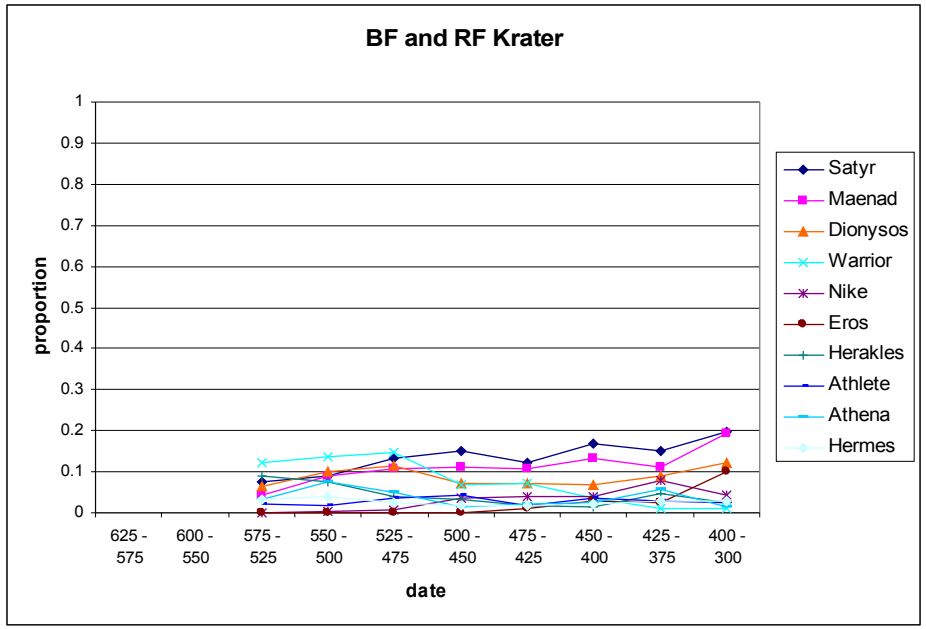
5.9 Black-figure and red-figure oinochoe. Proportion of top 10 motifs over time.



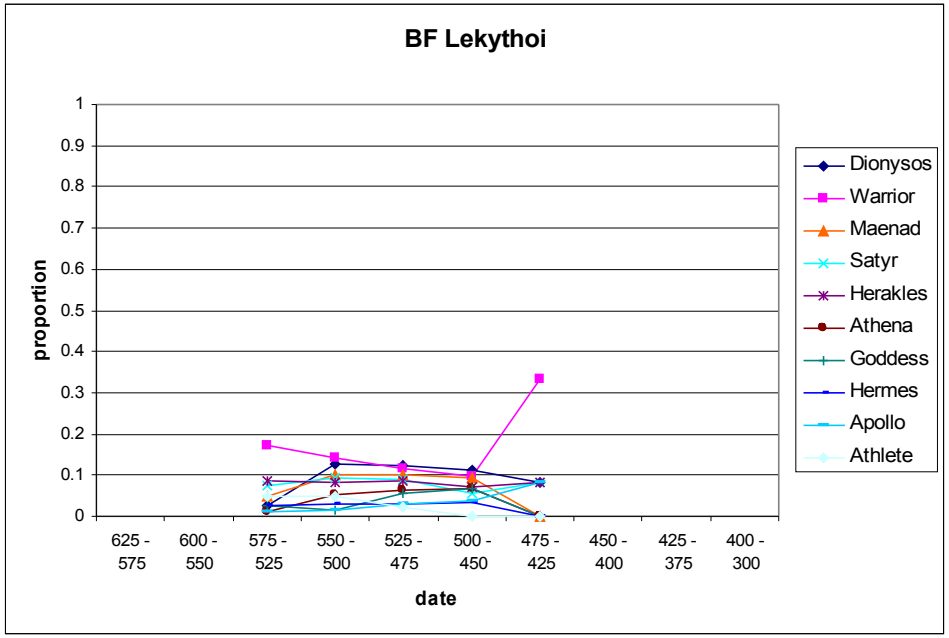
5.10 Black-figure krater. Proportion of top 10 motifs over time.



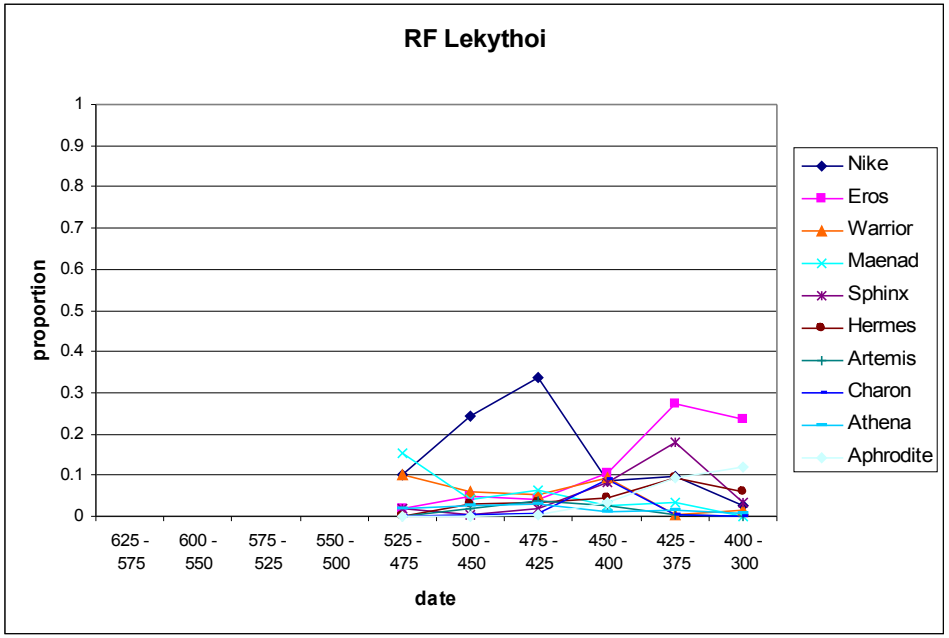
5.11 Red-figure krater. Proportion of top 10 motifs over time.



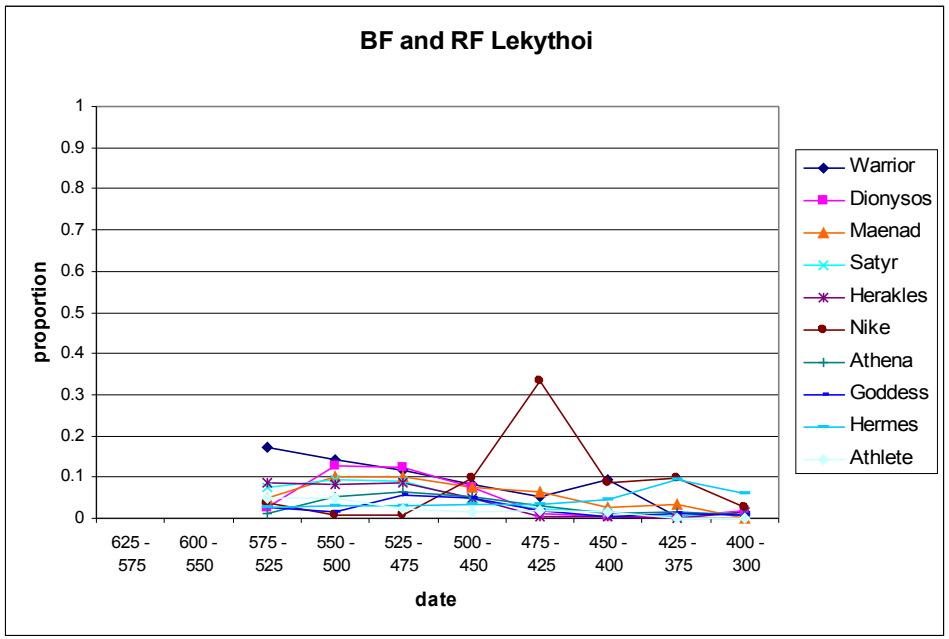
5.12 Black-figure and red-figure krater. Proportion of top 10 motifs over time.



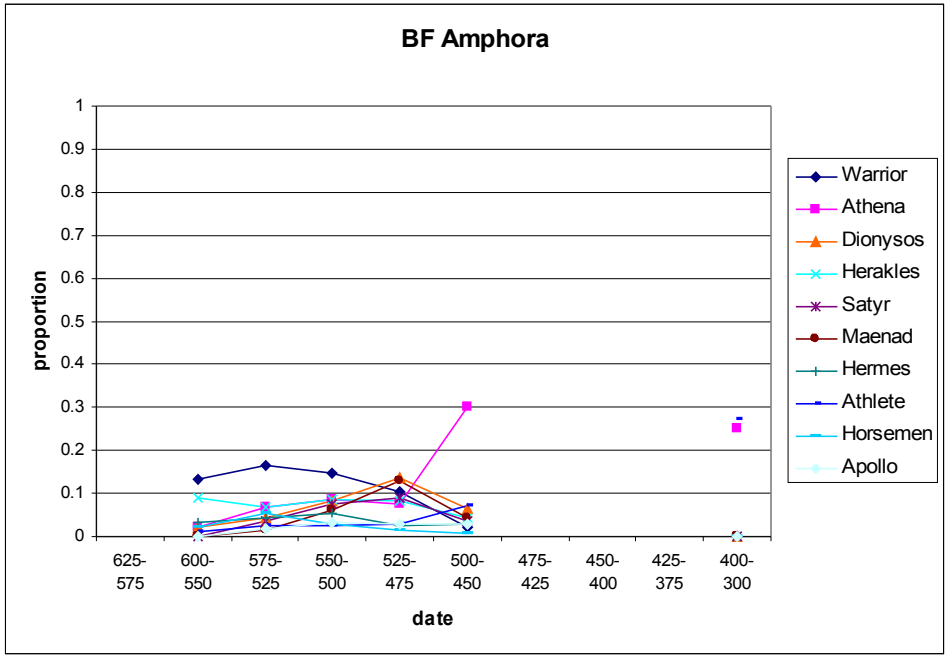
5.13 Black-figure lekythoi. Proportion of top 10 motifs over time.



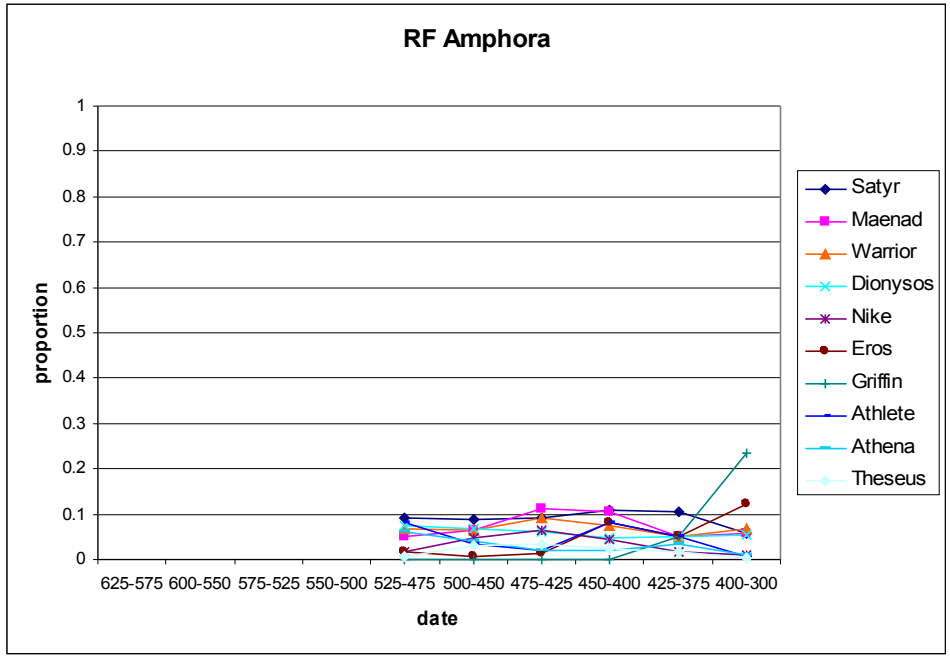
5.14 Red-figure lekythoi. Proportion of top 10 motifs over time.



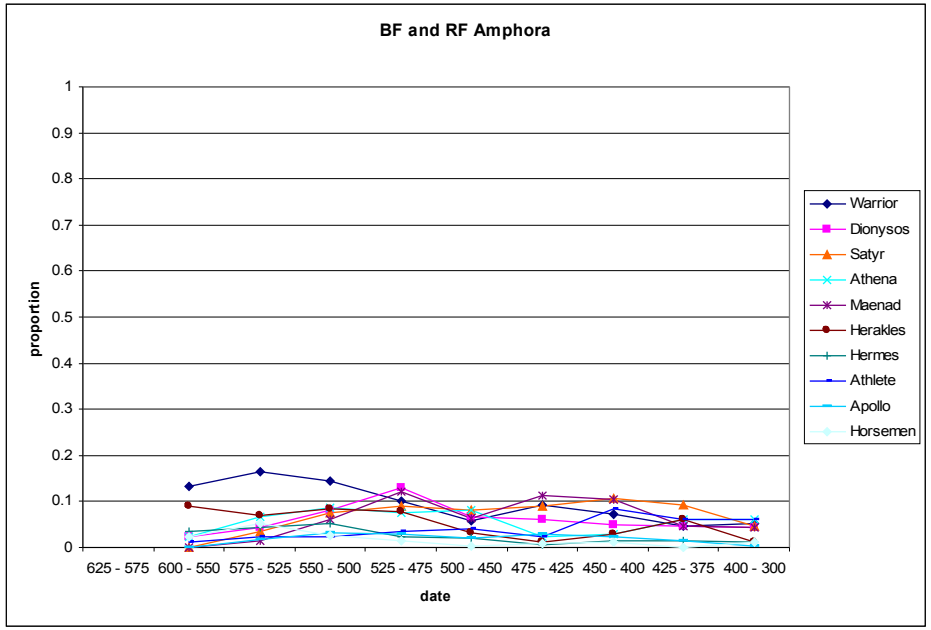
5.15 Black-figure and red-figure lekythoi. Proportion of top 10 motifs over time.



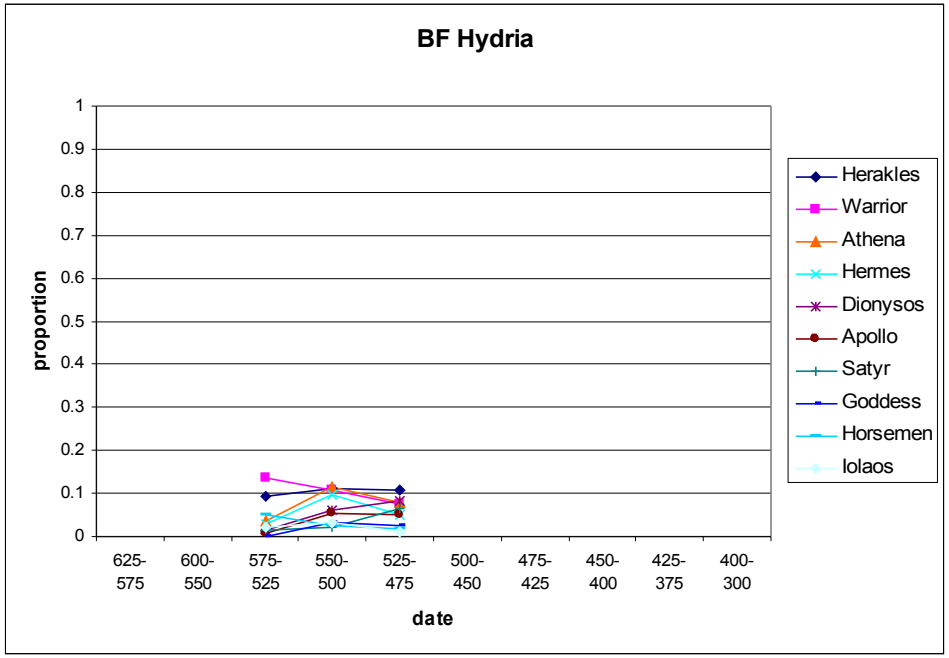
5.16 Black-figure amphorae. Proportion of top 10 motifs over time.



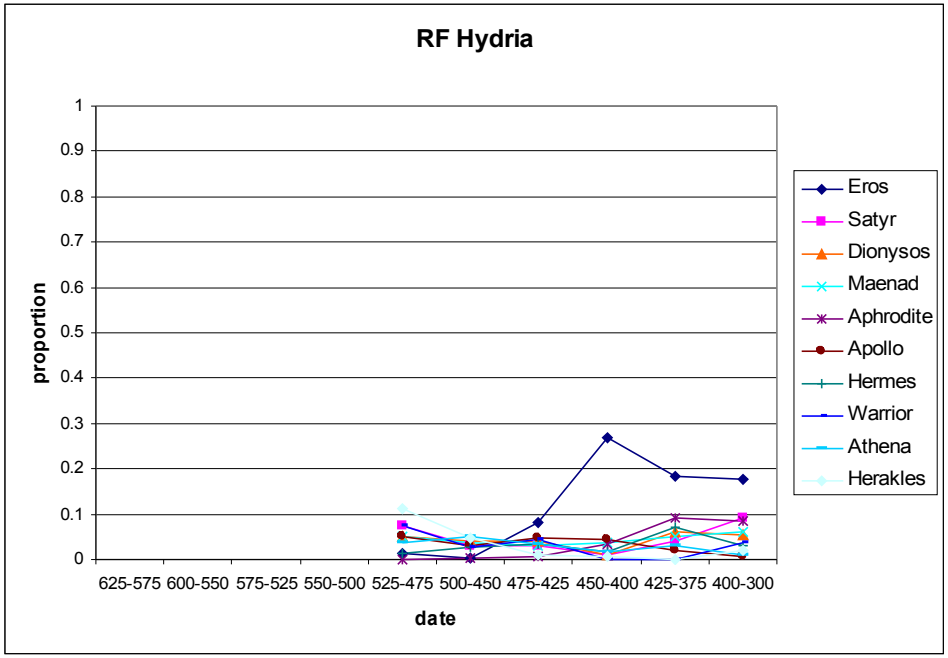
5.17 Red-figure amphorae. Proportion of top 10 motifs over time.



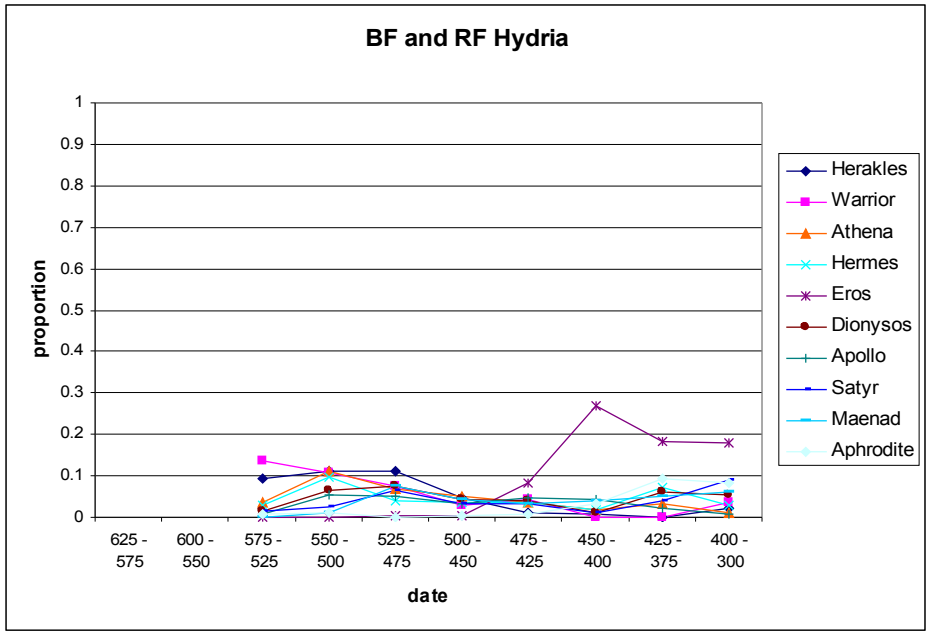
5.18 Black-figure and red-figure amphorae. Proportion of top 10 motifs over time.



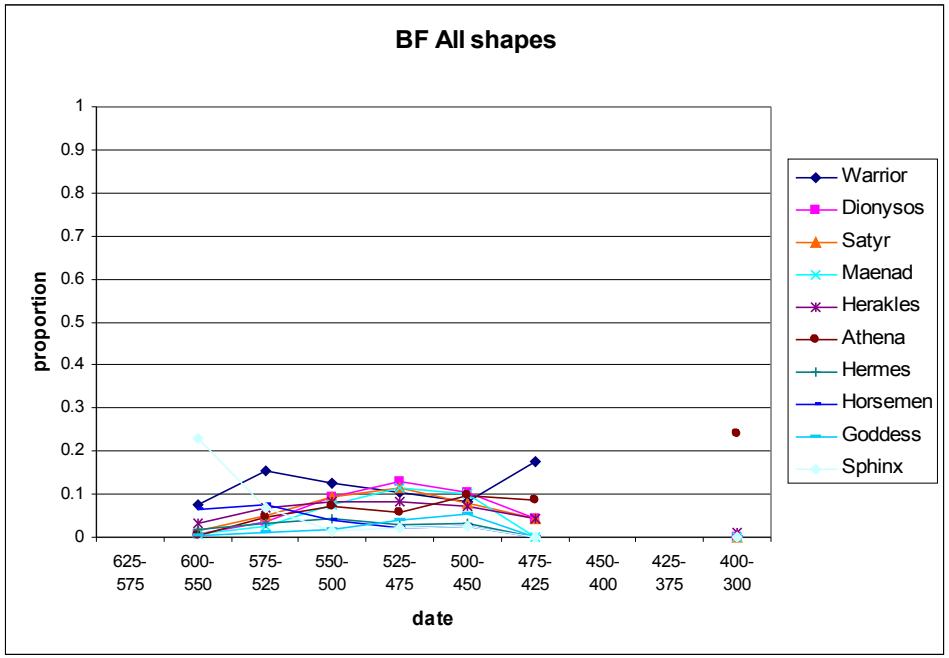
5.19 Black-figure hydria. Proportion of top 10 motifs over time.



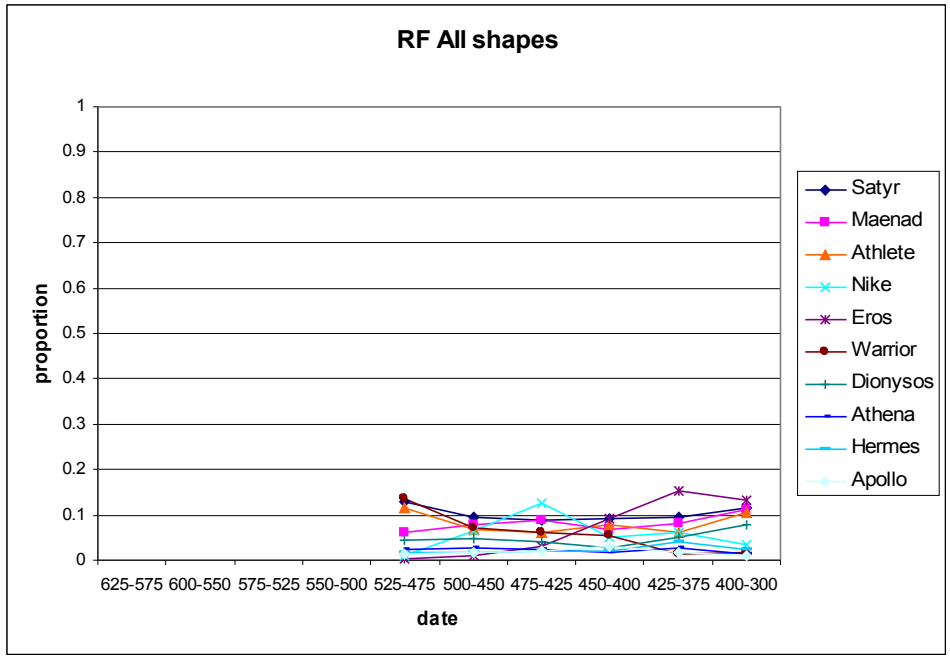
5.20 Red-figure hydria. Proportion of top 10 motifs over time.



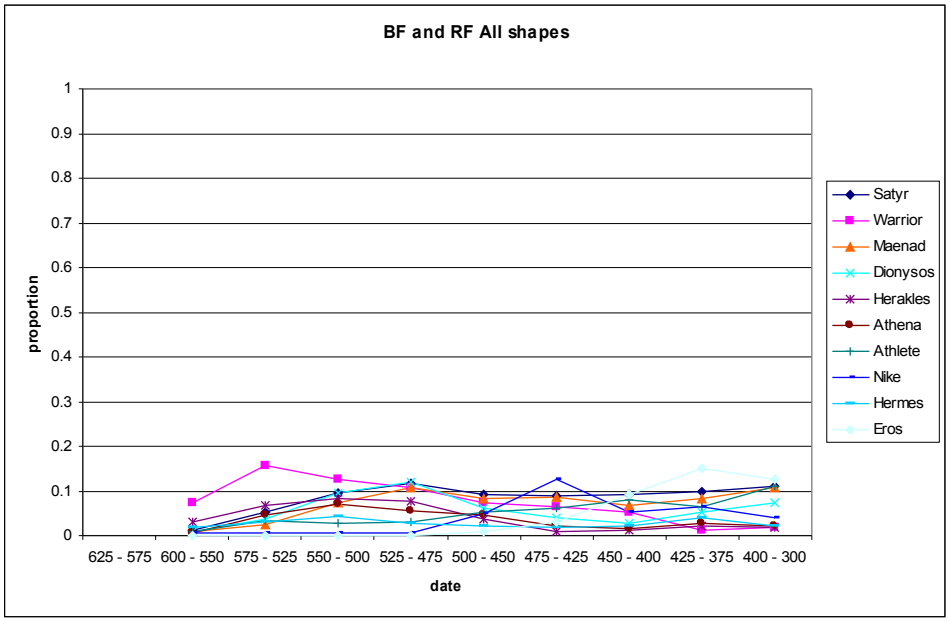
5.21 Black-figure and red-figure hydria. Proportion of top 10 motifs over time.



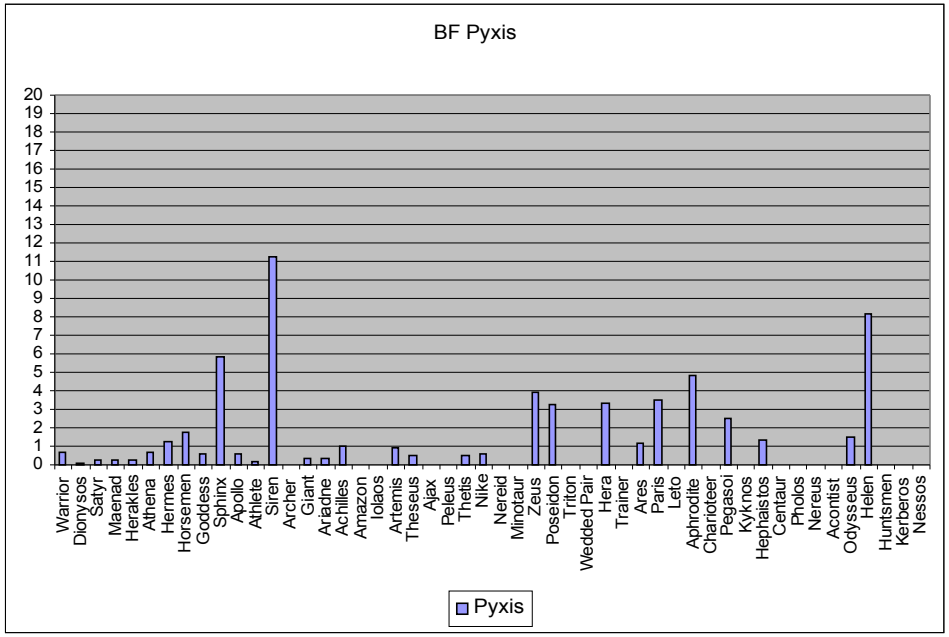
5.22 Black-figure all shapes. Proportion of top 10 motifs over time.



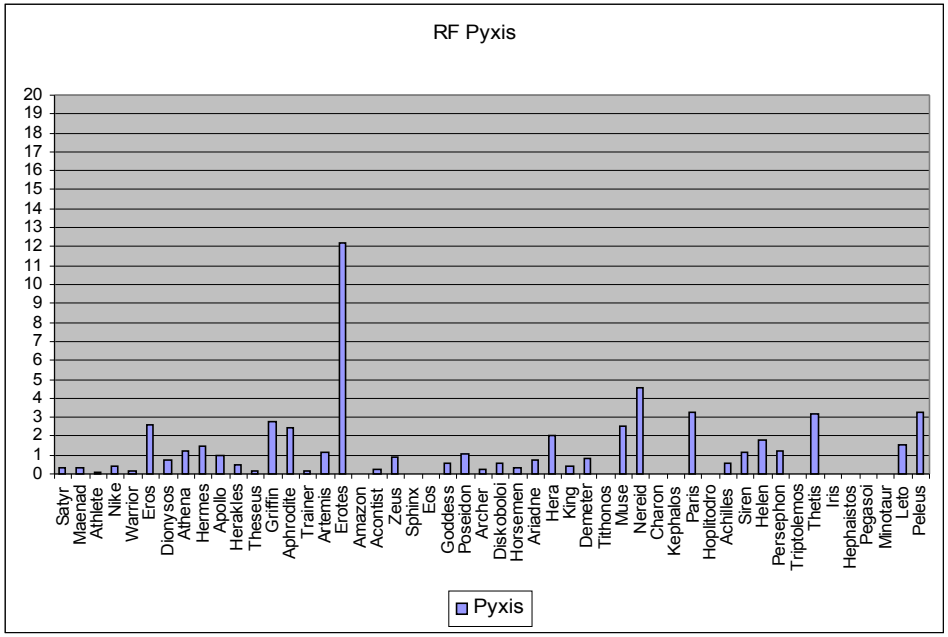
5.23 Red-figure all shapes. Proportion of top 10 motifs over time.



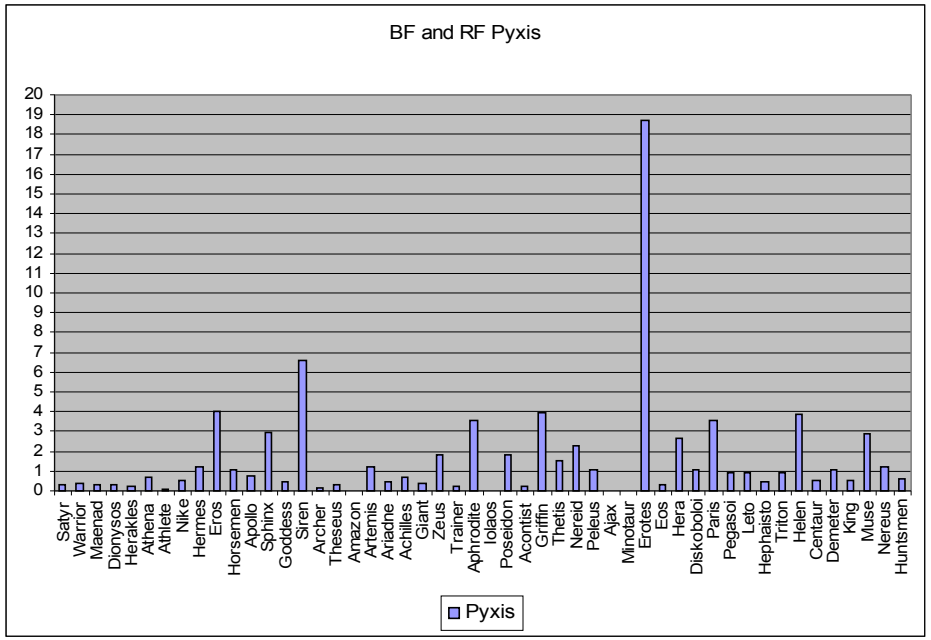
5.24 Black-figure and red-figure all shapes. Proportion of top 10 motifs over time.



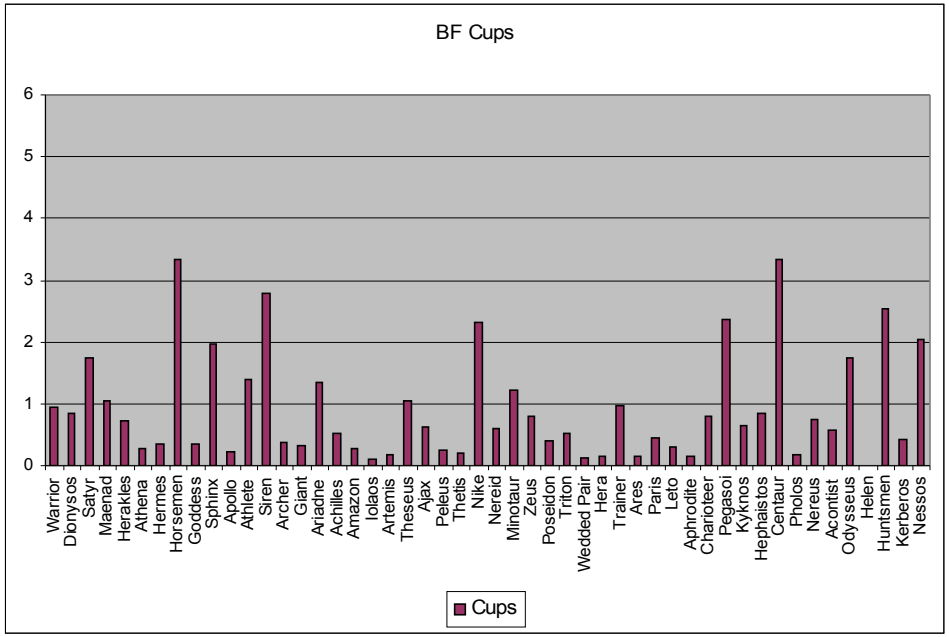
5.25 Black-figure pyxis: Proportion of top 50 motifs.



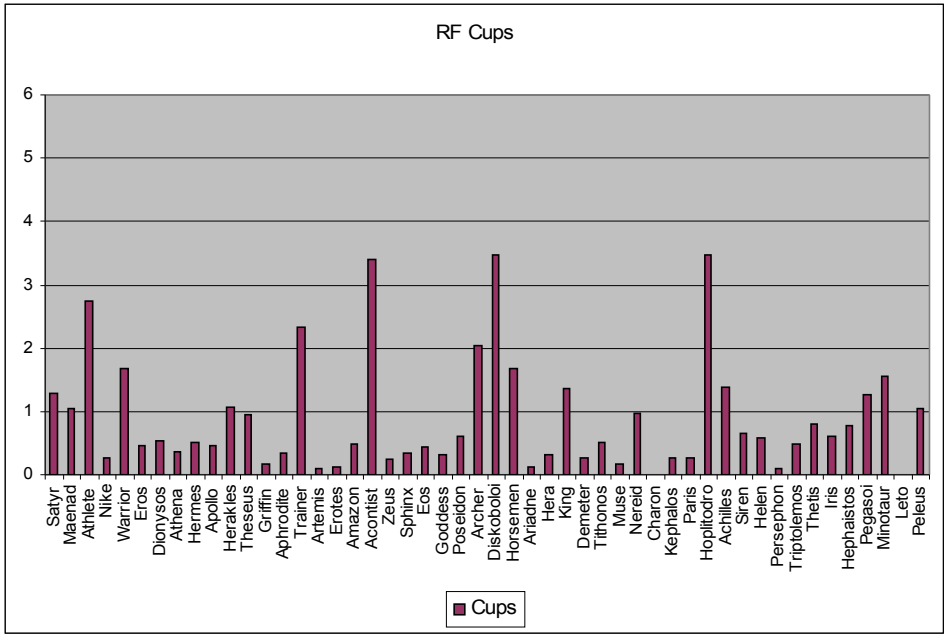
5.26 Red-figure pyxis: Proportion of top 50 motifs.



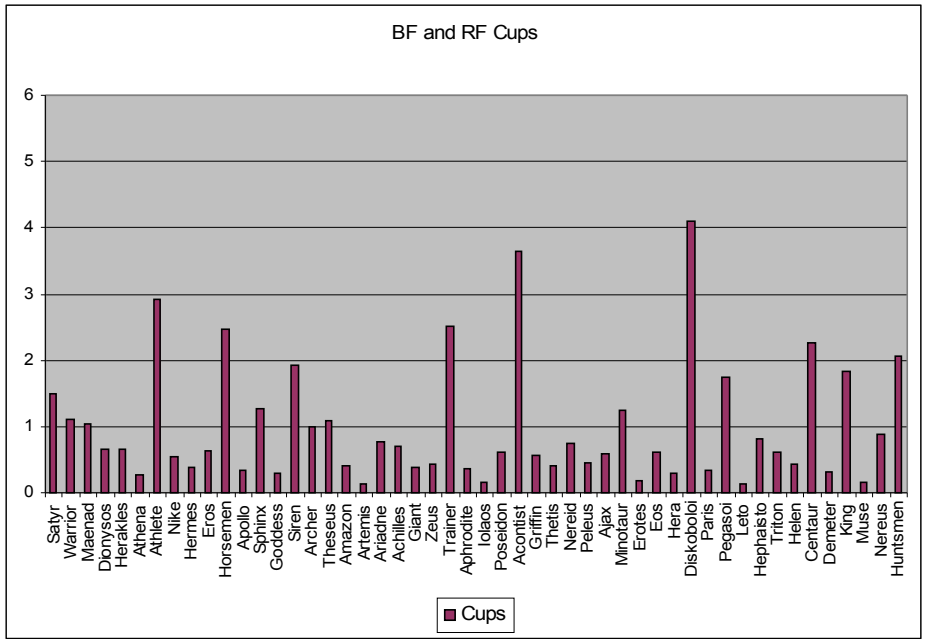
5.27 Black-figure and red-figure pyxis: Proportion of top 50 motifs.



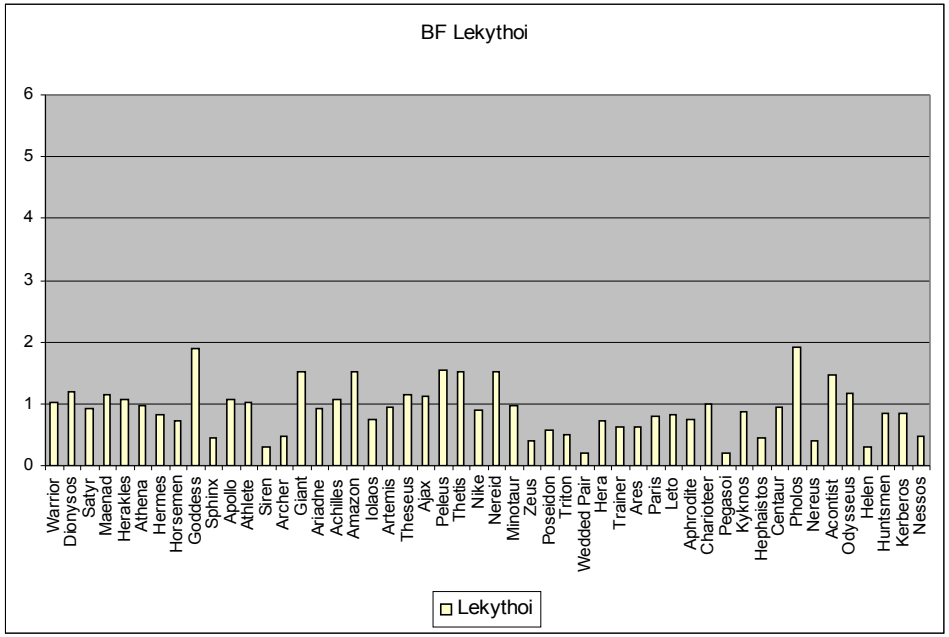
5.28 Black-figure cups: Proportion of top 50 motifs.



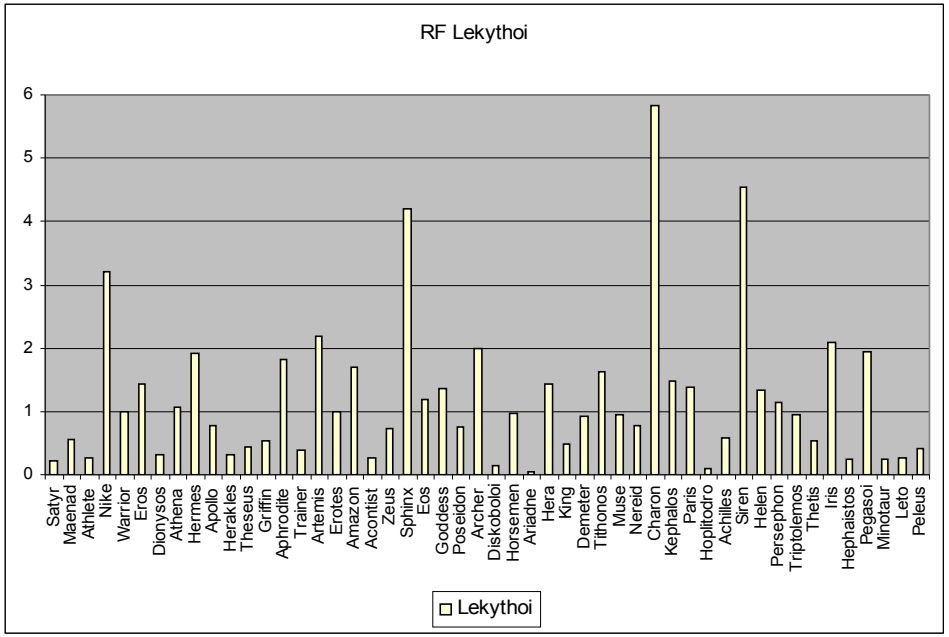
5.29 Red-figure cups: Proportion of top 50 motifs.



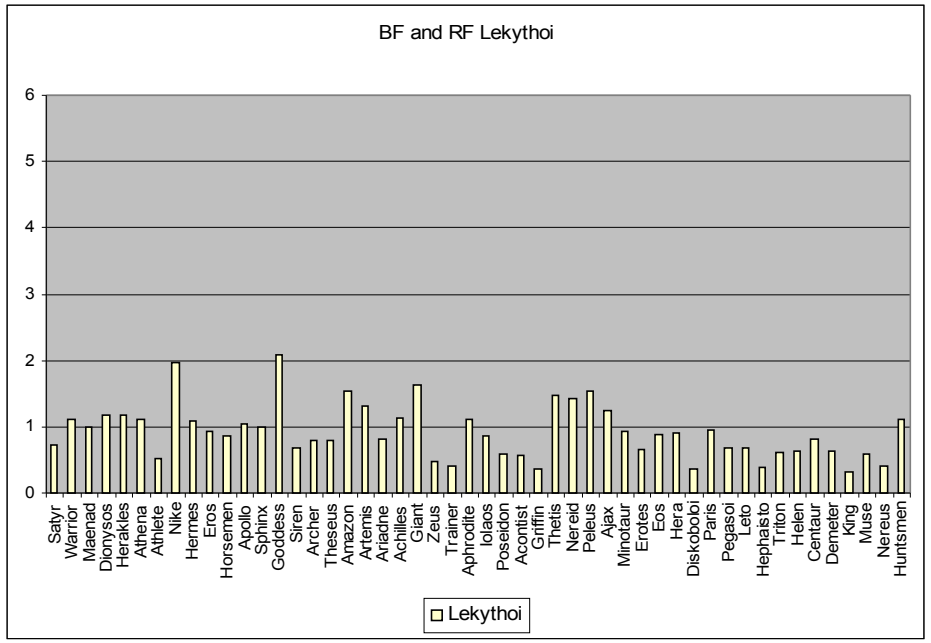
5.30 Black-figure and red-figure cups: Proportion of top 50 motifs.



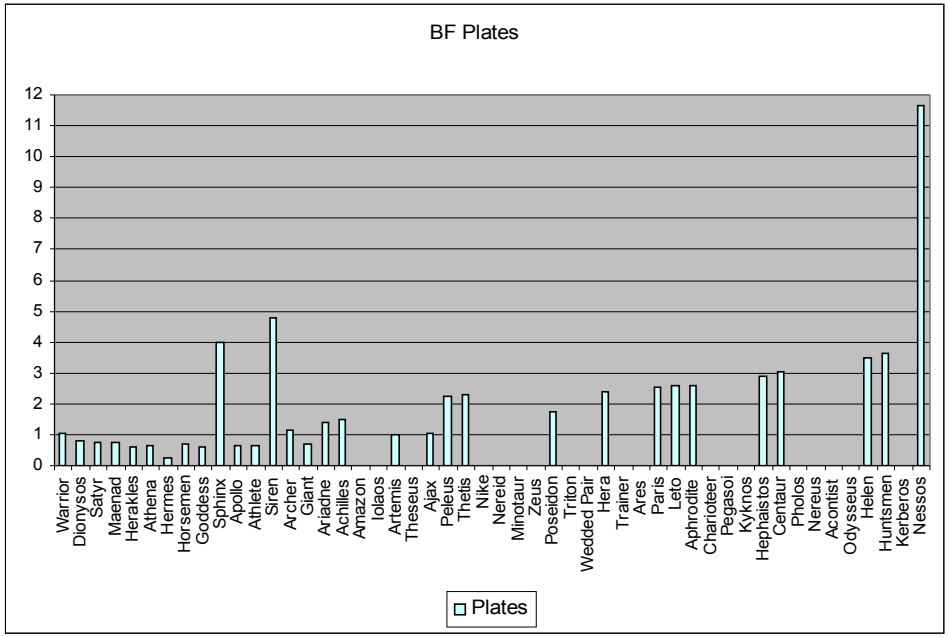
5.31 Black-figure lekythoi: Proportion of top 50 motifs.



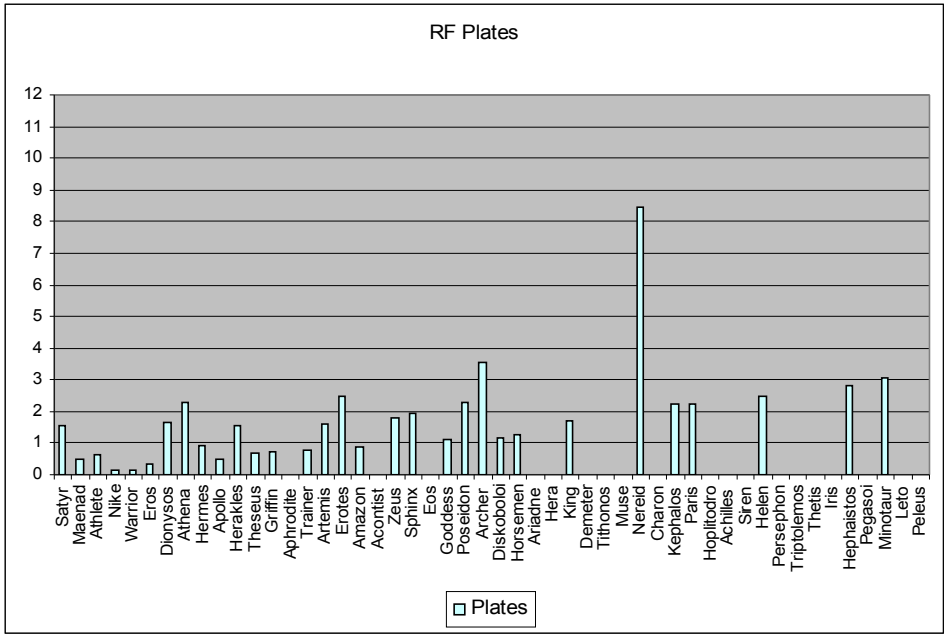
5.32 Red-figure lekythoi: Proportion of top 50 motifs.



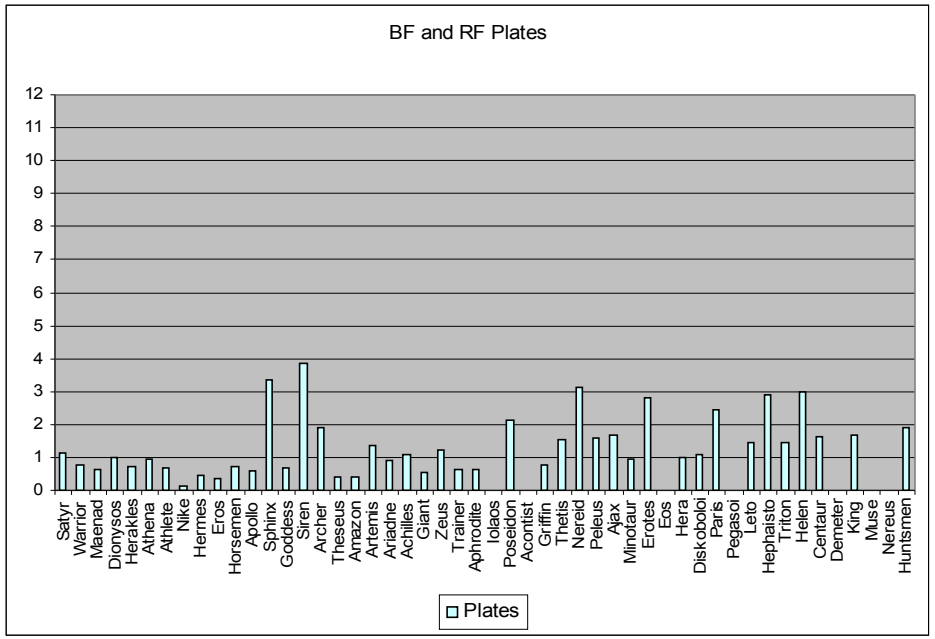
5.33 Black-figure and red-figure lekythoi: Proportion of top 50 motifs.



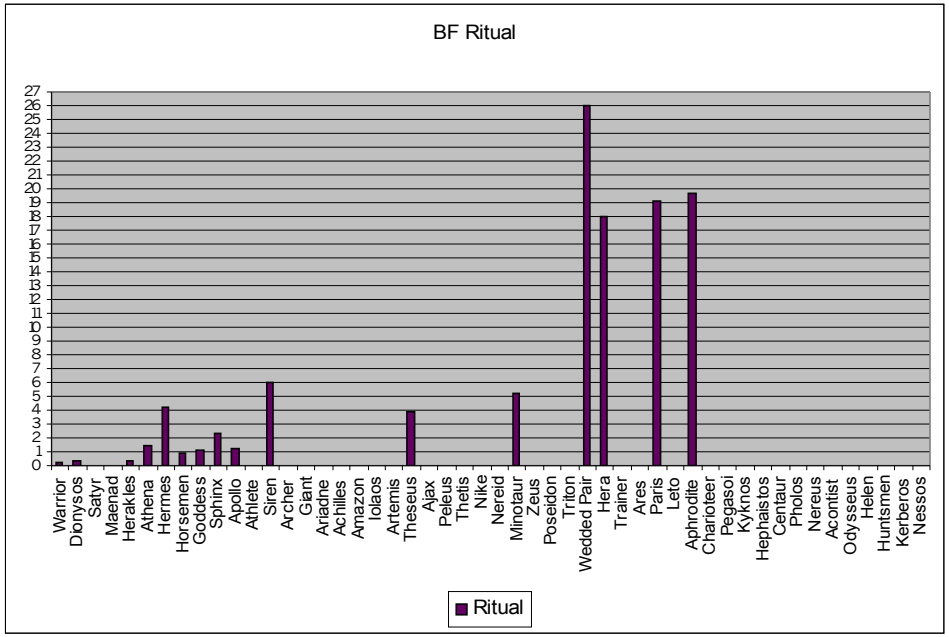
5.34 Black-figure plates: Proportion of top 50 motifs.



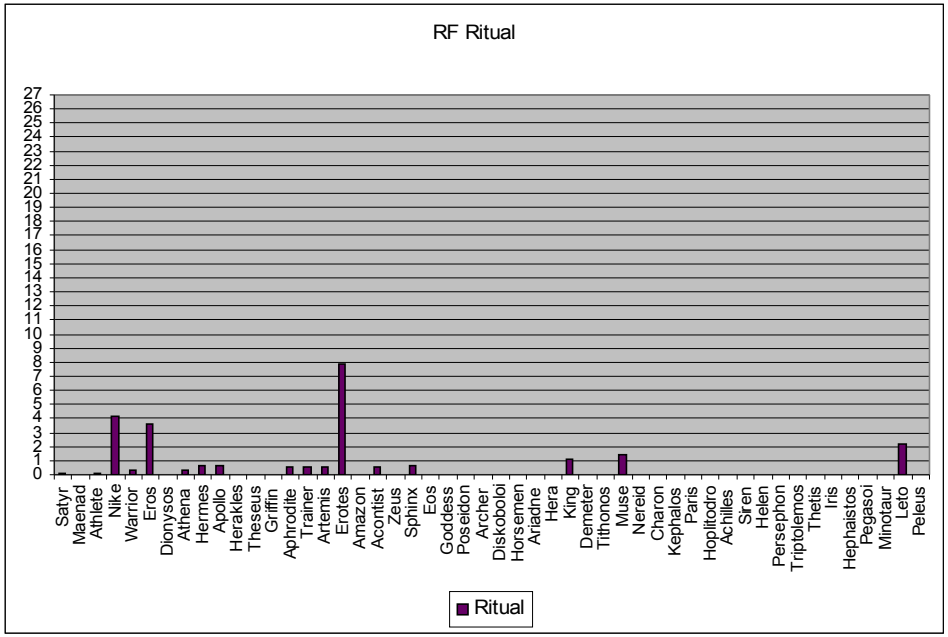
5.35 Red-figure plates: Proportion of top 50 motifs.



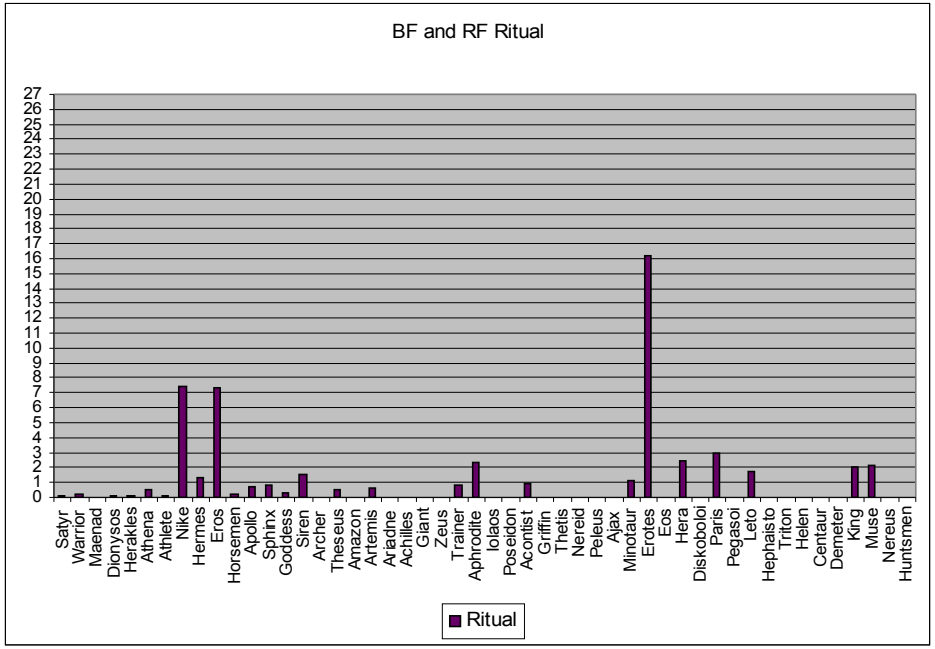
5.36 Black-figure and red-figure plates: Proportion of top 50 motifs.



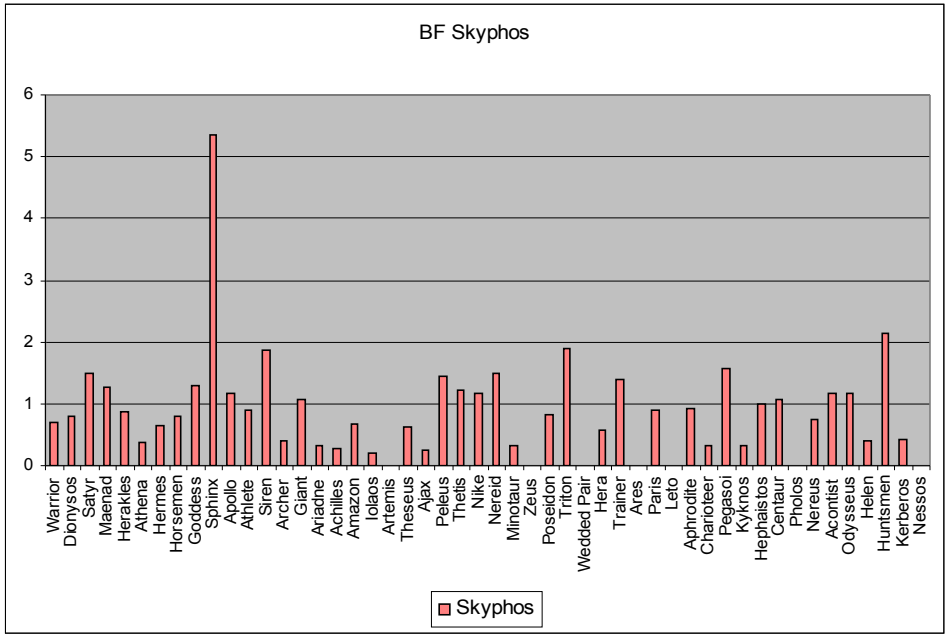
5.37 Black-figure ritual: Proportion of top 50 motifs.



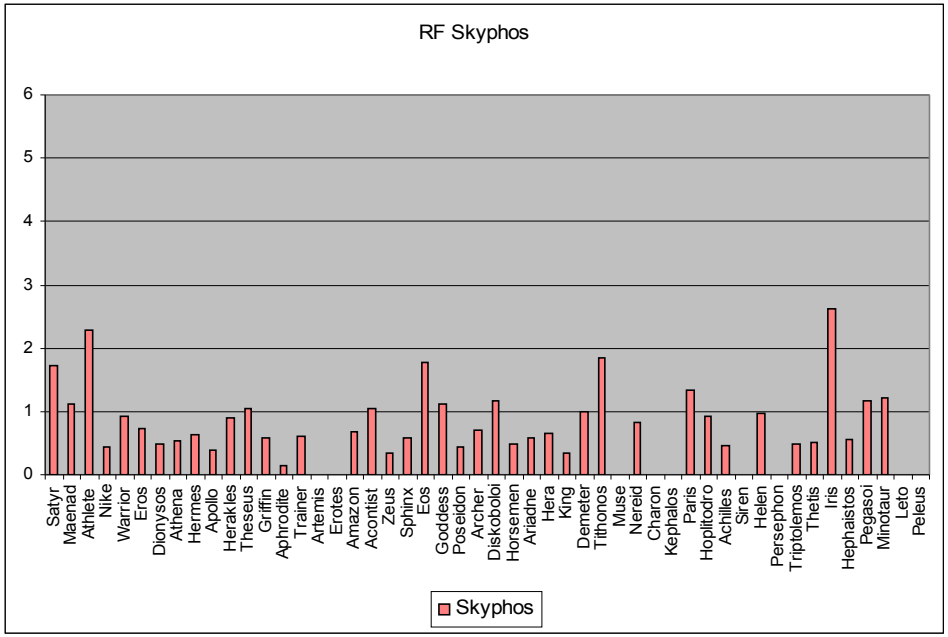
5.38 Red-figure ritual: Proportion of top 50 motifs.



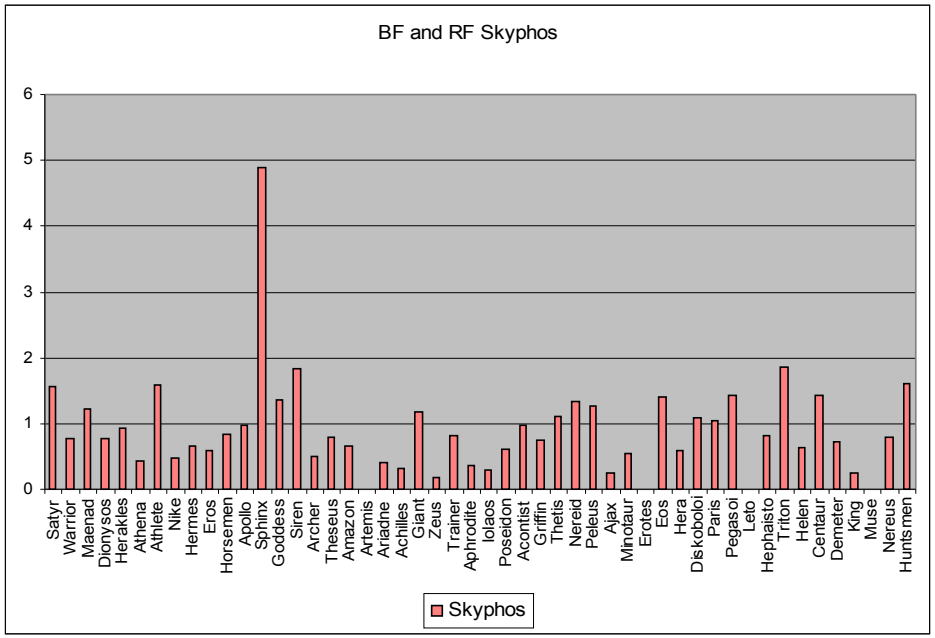
5.39 Black-figure and red-figure ritual: Proportion of top 50 motifs.



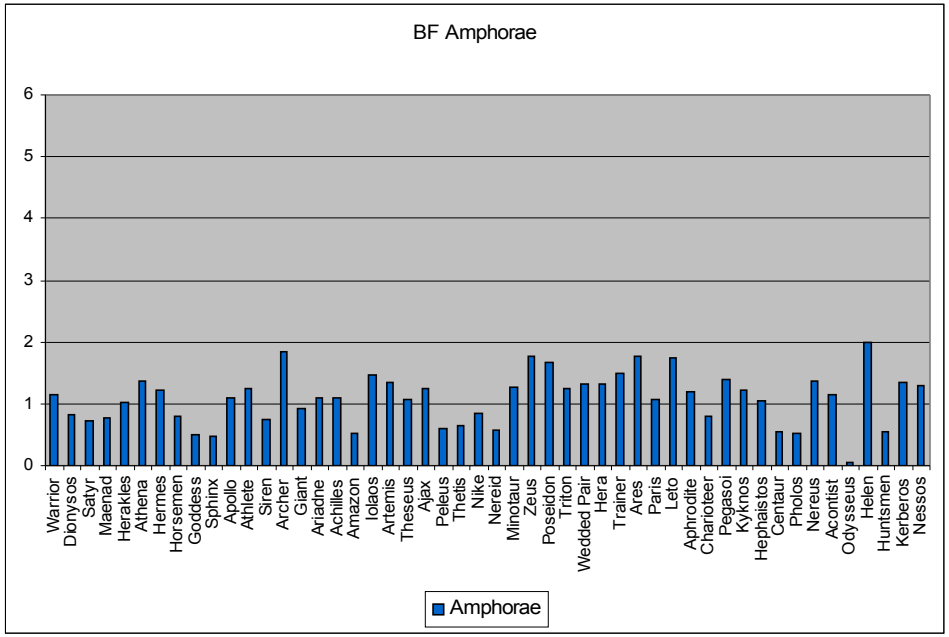
5.40 Black-figure skyphos Proportion of top 50 motifs.



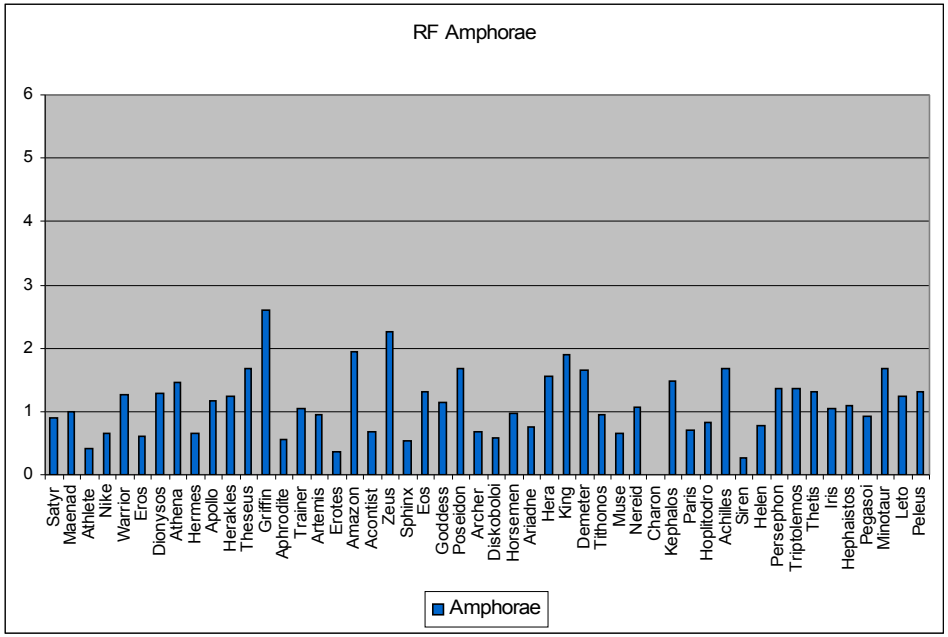
5.41 Red-figure skyphos: Proportion of top 50 motifs.



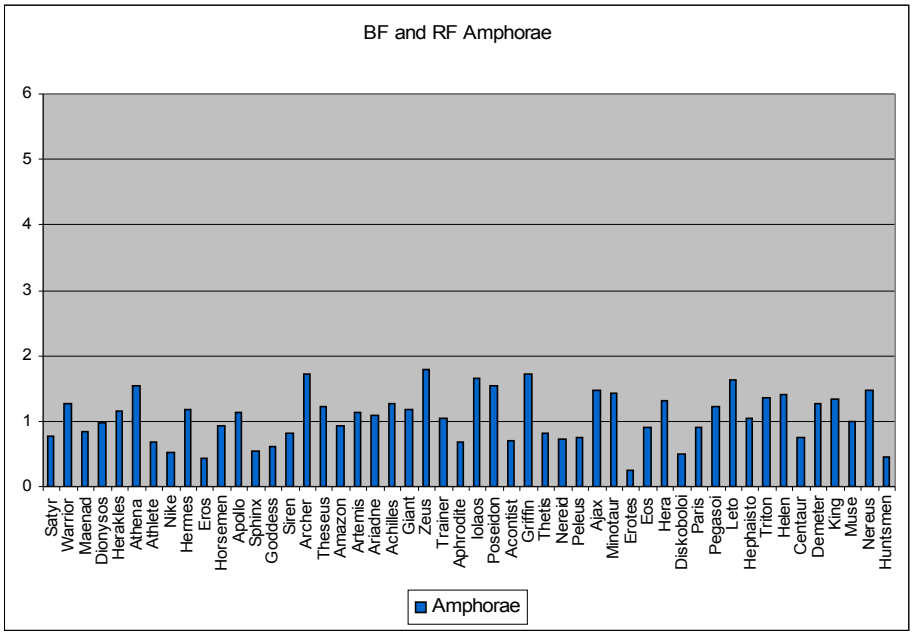
5.42 Black-figure and red-figure skyphos: Proportion of top 50 motifs.



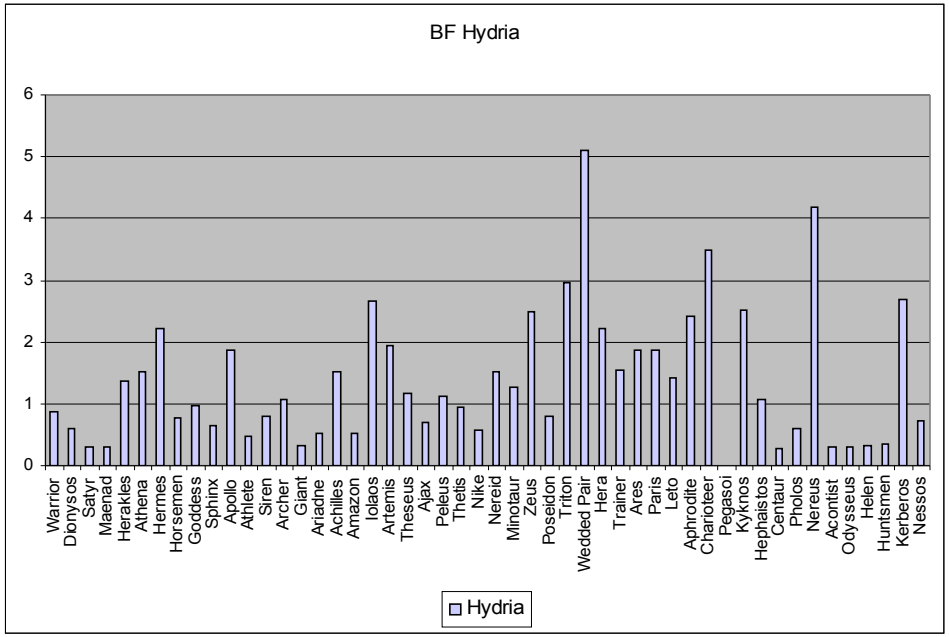
5.43 Black-figure amphorae: Proportion of top 50 motifs.



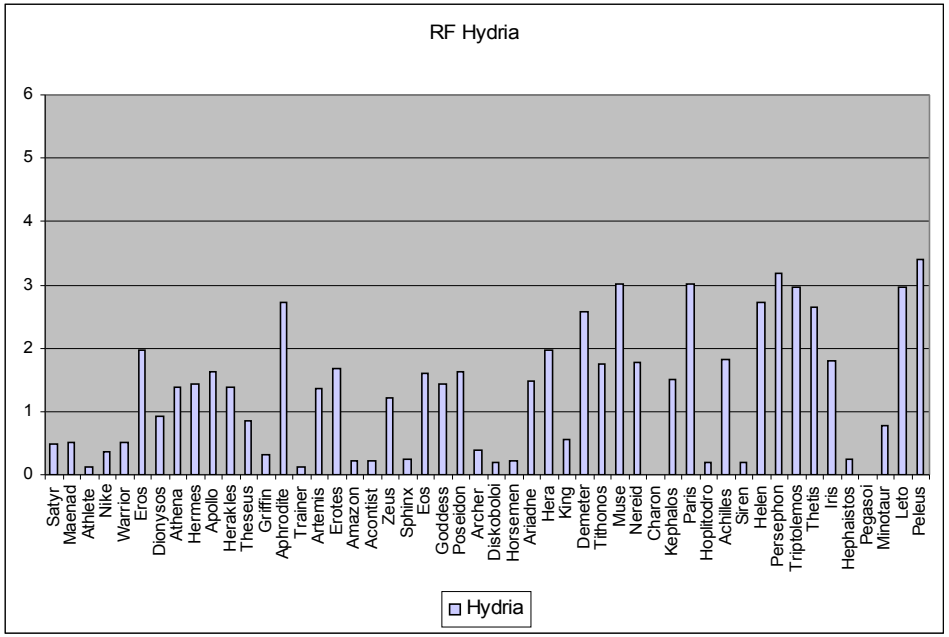
5.44 Red-figure amphorae: Proportion of top 50 motifs.



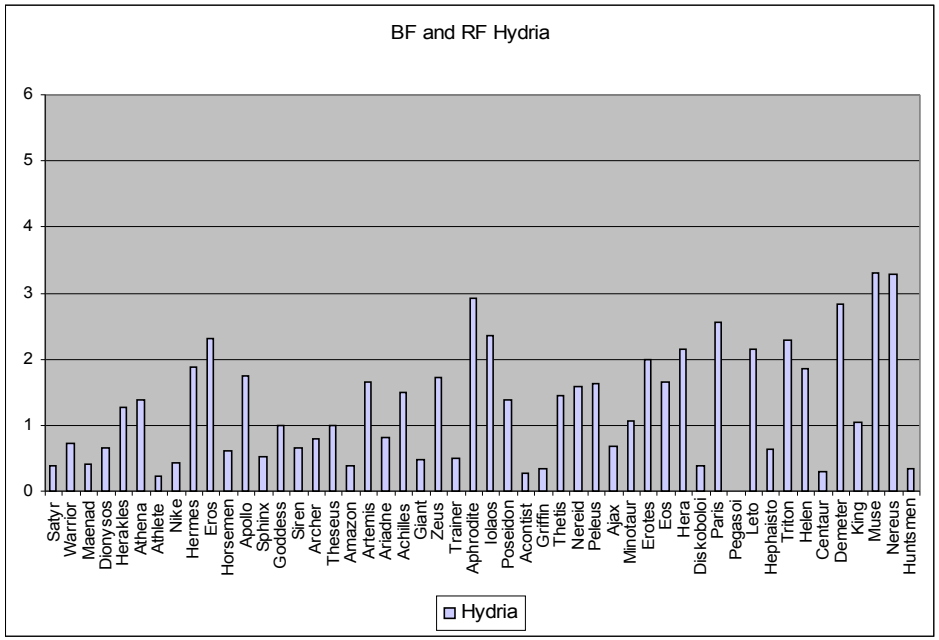
5.45 Black-figure and red-figure amphorae: Proportion of top 50 motifs.



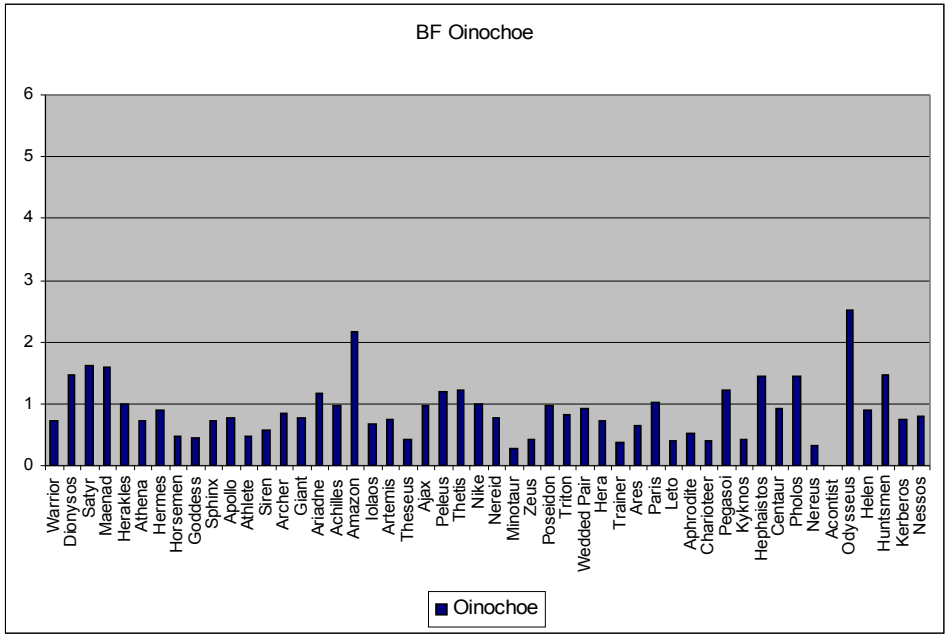
5.46 Black-figure hydria: Proportion of top 50 motifs.



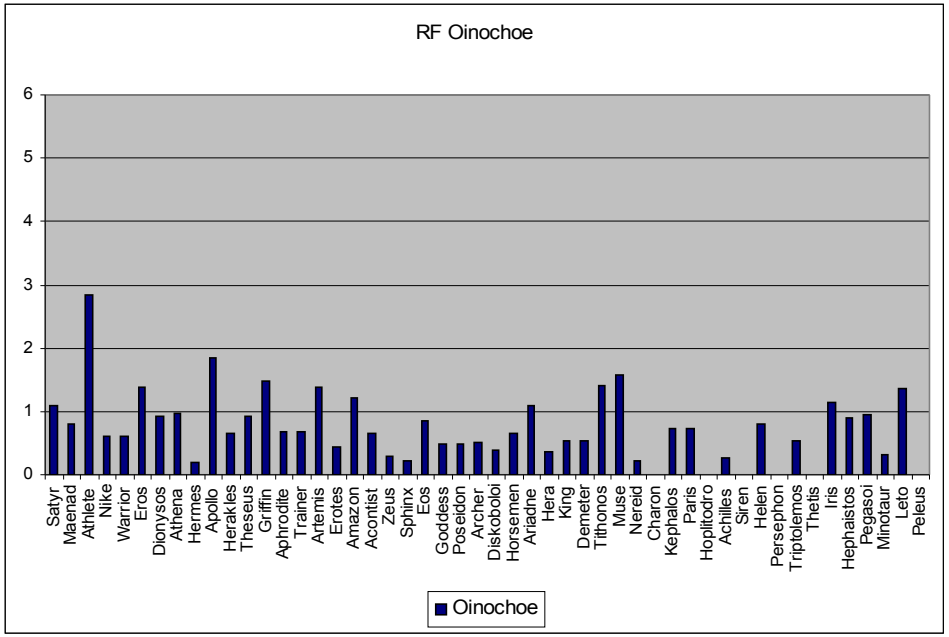
5.47 Red-figure hydria: Proportion of top 50 motifs.



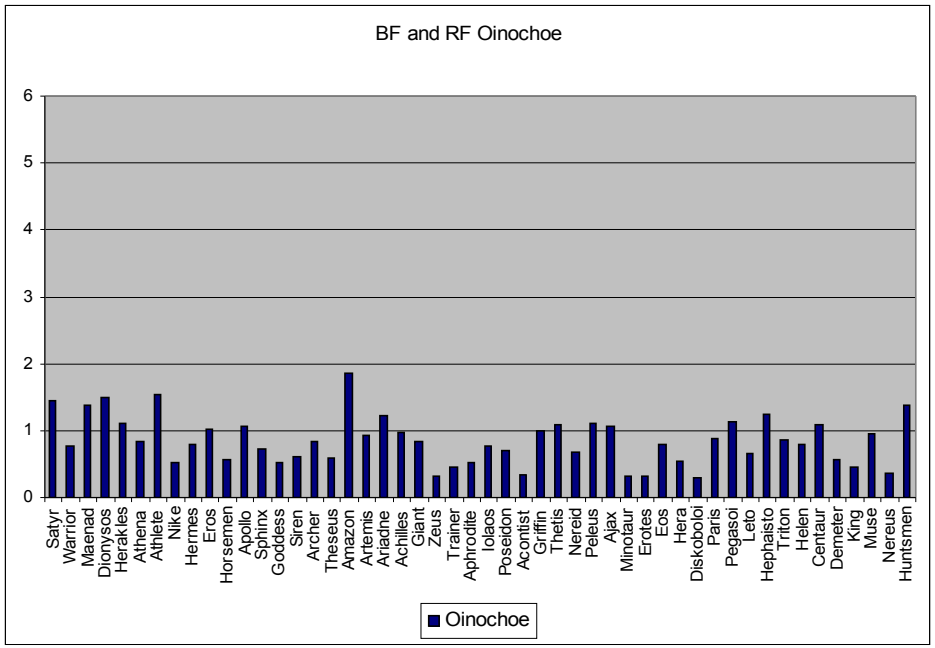
5.48 Black-figure and red-figure hydria: Proportion of top 50 motifs.



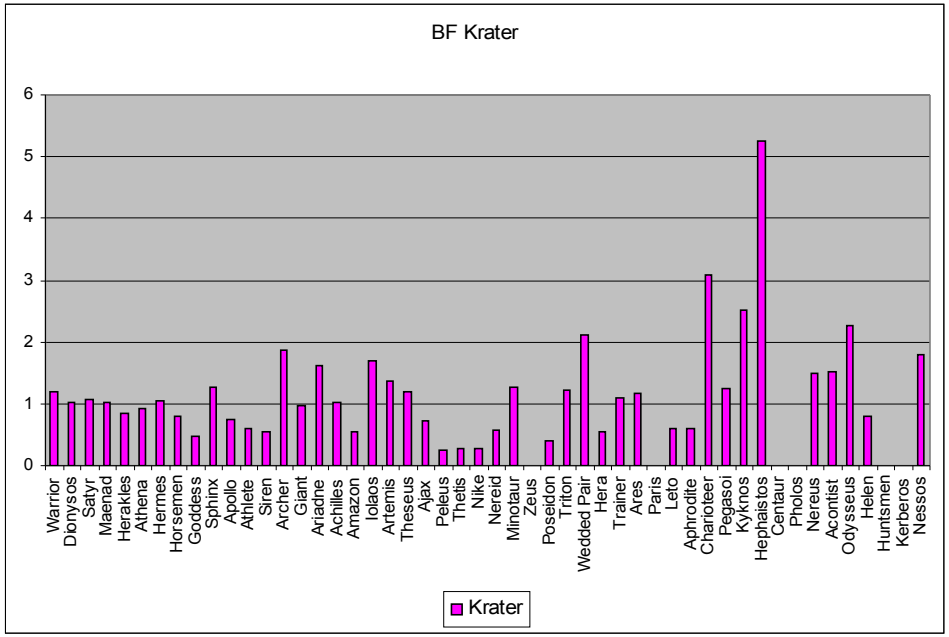
5.49 Black-figure oinochoe: Proportion of top 50 motifs.



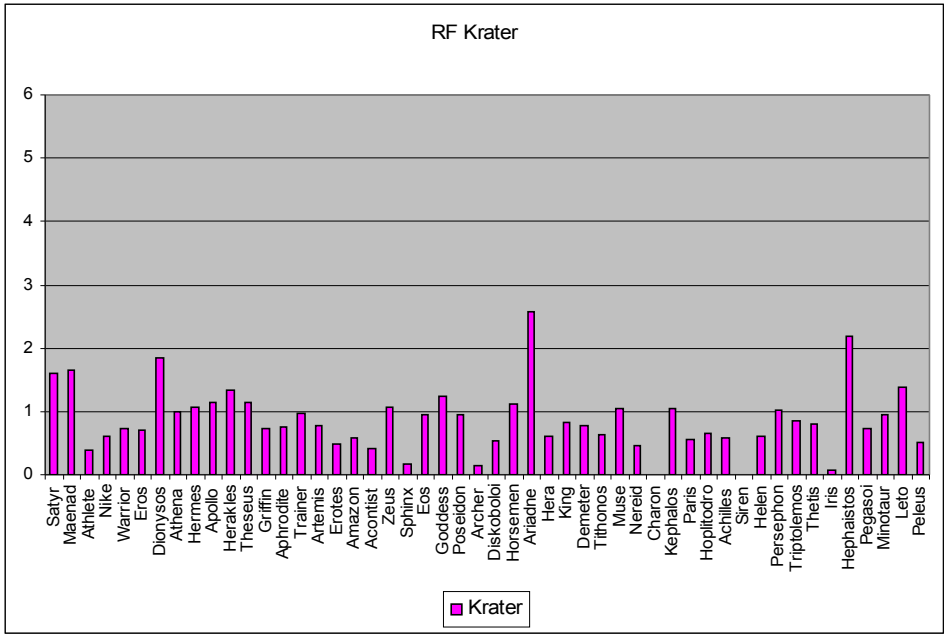
5.50 Red-figure oinochoe: Proportion of top 50 motifs.



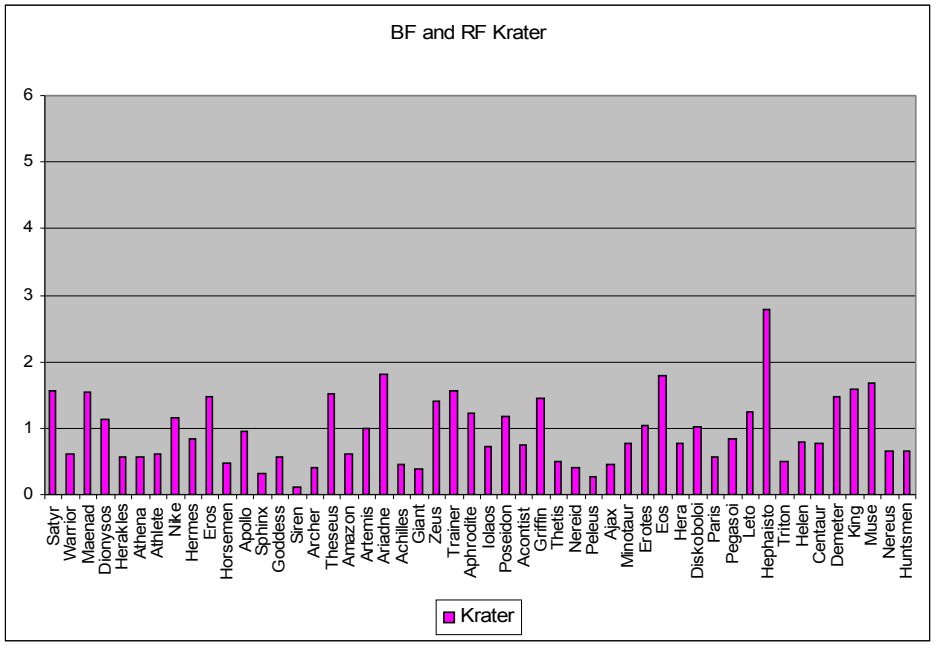
5.51 Black-figure and red-figure oinochoe: Proportion of top 50 motifs.



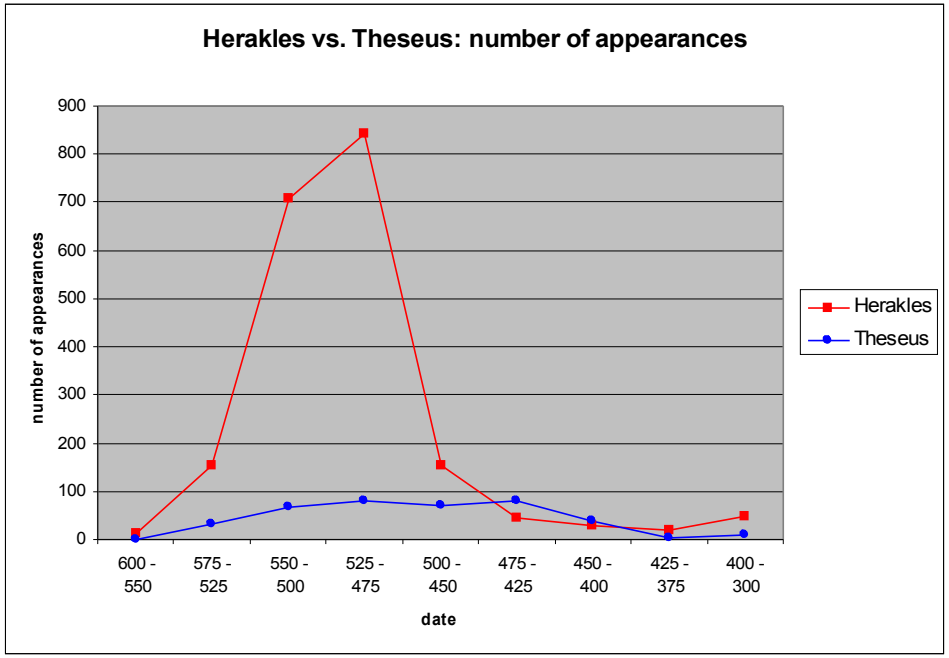
5.52 Black-figure kraters: Proportion of top 50 motifs.



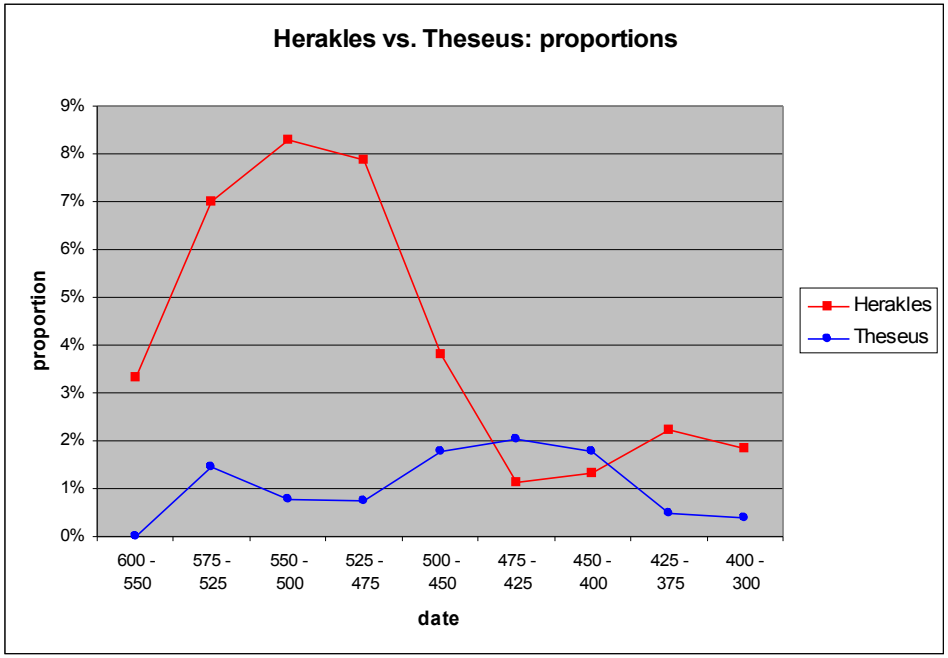
5.53 Red-figure kraters: Proportion of top 50 motifs.



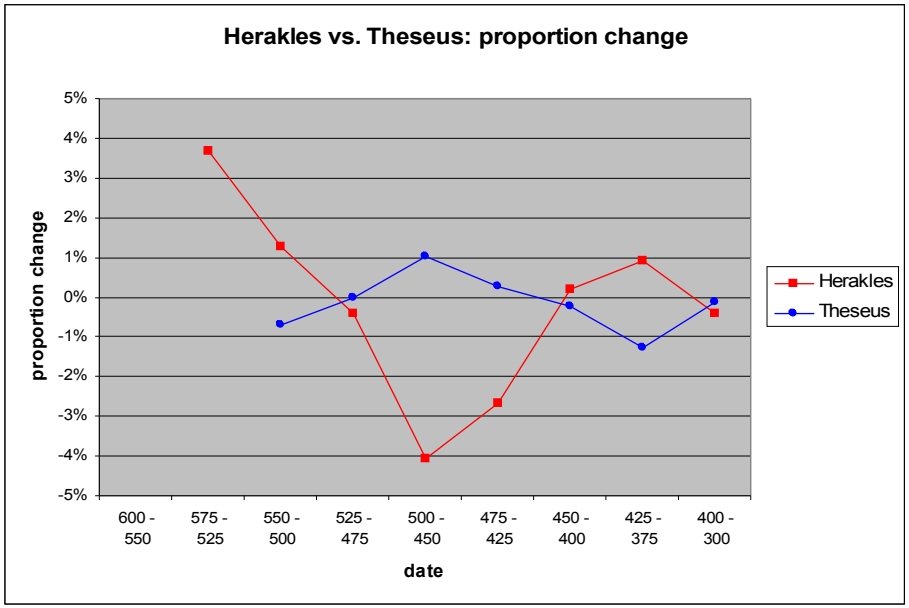
5.54 Black-figure and red-figure kraters: Proportion of top 50 motifs.



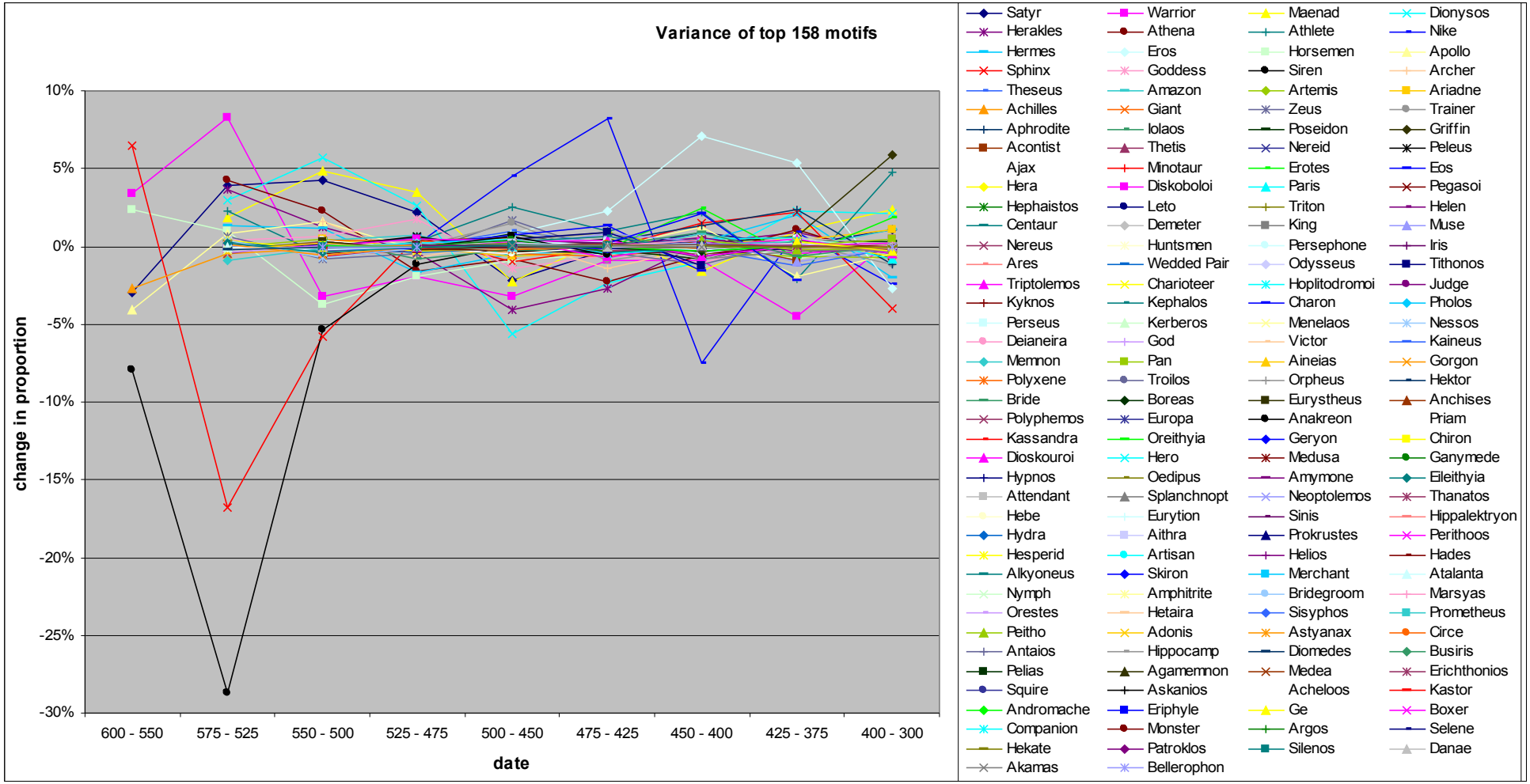
5.55. Herakles vs. Theseus, comparison of actual observations in the database.

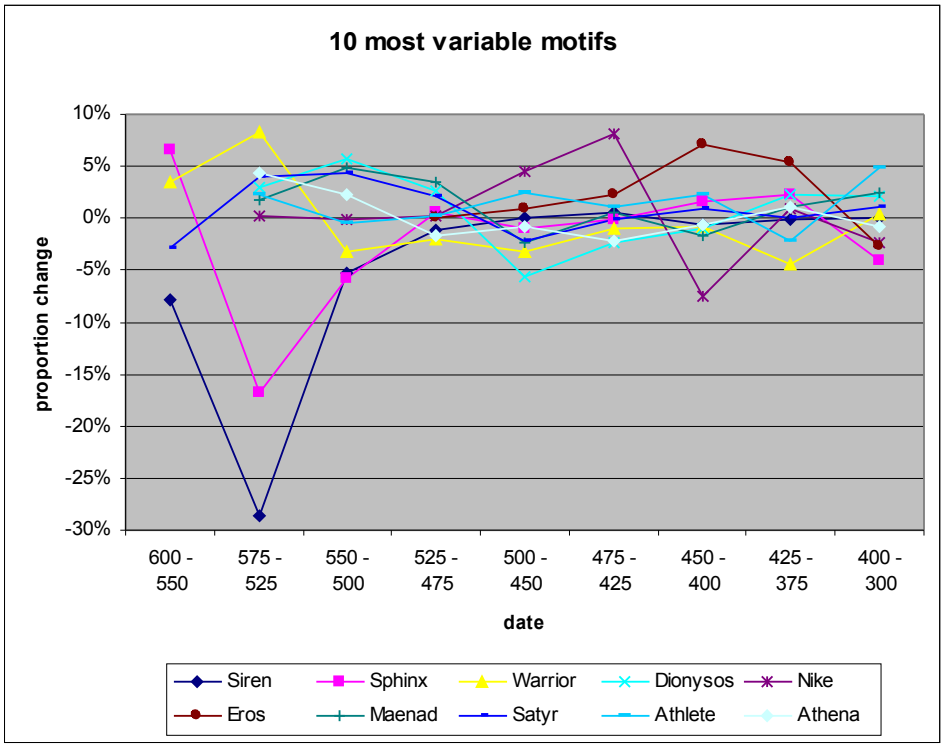


5.56. Herakles vs. Theseus, comparison of proportions of all motifs for each period.

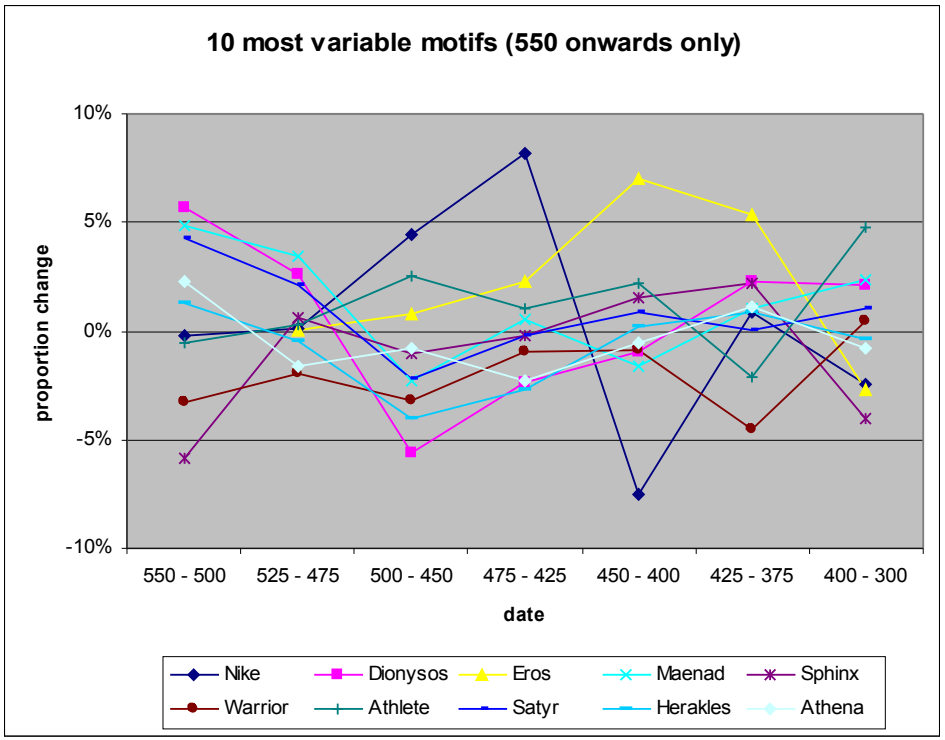


5.57. Herakles vs. Theseus, comparison of change in proportion.

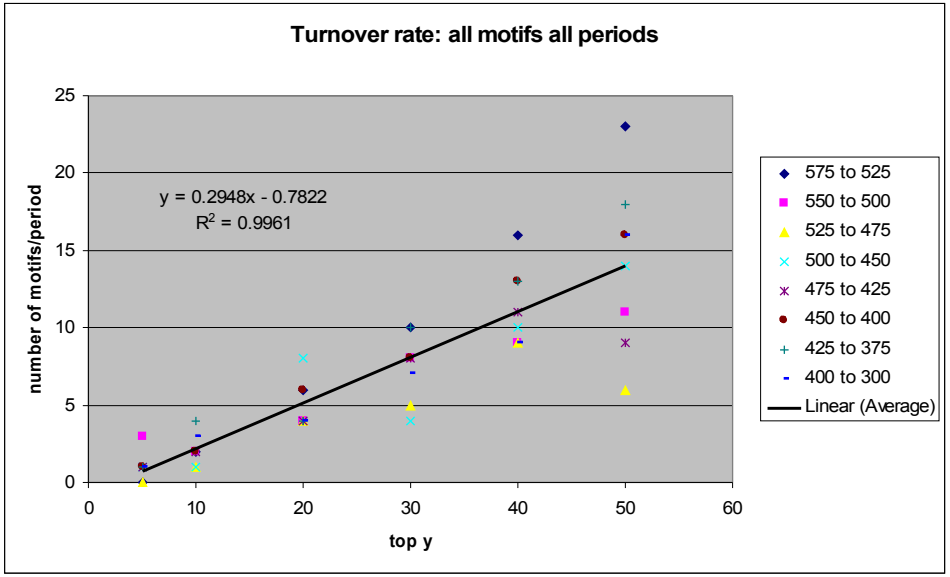

Variance of top 158 motifs
change in proportion
10%
5%
0%
-5%
-10%
-15%
-20%
-25%
-30%
600 - 550
575 - 525
550 - 500
525 - 475
500 - 450
475 - 425
450 - 400
425 - 375
400 - 300
date
Satyr
Warrior
Maenad
Dionysos
Herakles
Athena
Athlete
Nike
Hermes
Eros
Horsemen
Apollo
Sphinx
Goddess
Siren
Archer
Theseus
Amazon
Artemis
Ariadne
Achilles
Giant
Zeus
Trainer
Aphrodite
Iolaos
Poseidon
Griffin
Acontist
Thetis
Nereid
Peleus
Ajax
Minotaur
Erotes
Eos
Hera
Diskoboloi
Paris
Pegasoi
Hephaistos
Leto
Triton
Helen
Centaur
Demeter
King
Muse
Nereus
Huntsmen
Persephone
Iris
Ares
Wedded Pair
Odysseus
Tithonos
Triptolemos
Charioteer
Hoplitodromoi
Judge
Kyknos
Kephalos
Charon
Pholos
Perseus
Kerberos
Menelaos
Nessos
Deianeira
God
Victor
Kaineus
Memnon
Pan
Aineias
Gorgon
Polyxene
Troilos
Orpheus
Hektor
Bride
Boreas
Eurystheus
Anchises
Polyphemos
Europa
Anakreon
Priam
Kassandra
Oreithyia
Geryon
Chiron
Dioskouroi
Hero
Medusa
Ganymede
Hypnos
Oedipus
Amymone
Eileithyia
Attendant
Splanchnopt
Neoptolemos
Thanatos
Hebe
Eurytion
Sinis
Hippalektryon
Hydra
Aithra
Prokrustes
Perithoos
Hesperid
Artisan
Helios
Hades
Alkyoneus
Skiron
Merchant
Atalanta
Nymph
Amphitrite
Bridegroom
Marsyas
Orestes
Hetaira
Sisyphos
Prometheus
Peitho
Adonis
Astyanax
Circe
Antaios
Hippocamp
Diomedes
Busiris
Pelias
Agamemnon
Medea
Erichthonios
Squire
Askanios
Acheloos
Kastor
Andromache
Eriphyle
Ge
Boxer
Companion
Monster
Argos
Selene
Hekate
Patroklos
Silenos
Danae
Akamas
Bellerophon



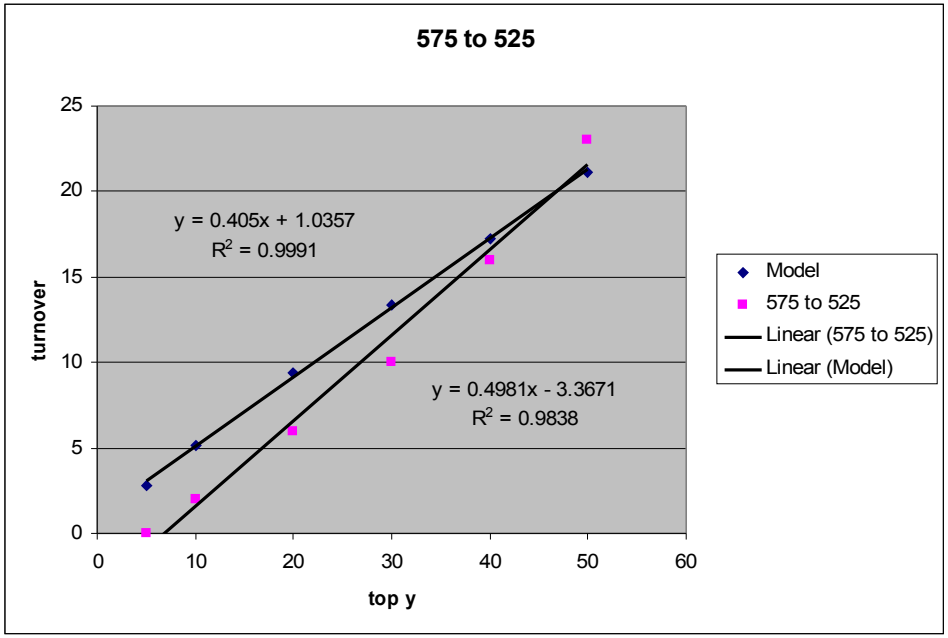
5.59. Turnover rate for the 10 motifs with the highest variability, across all shapes and techniques.



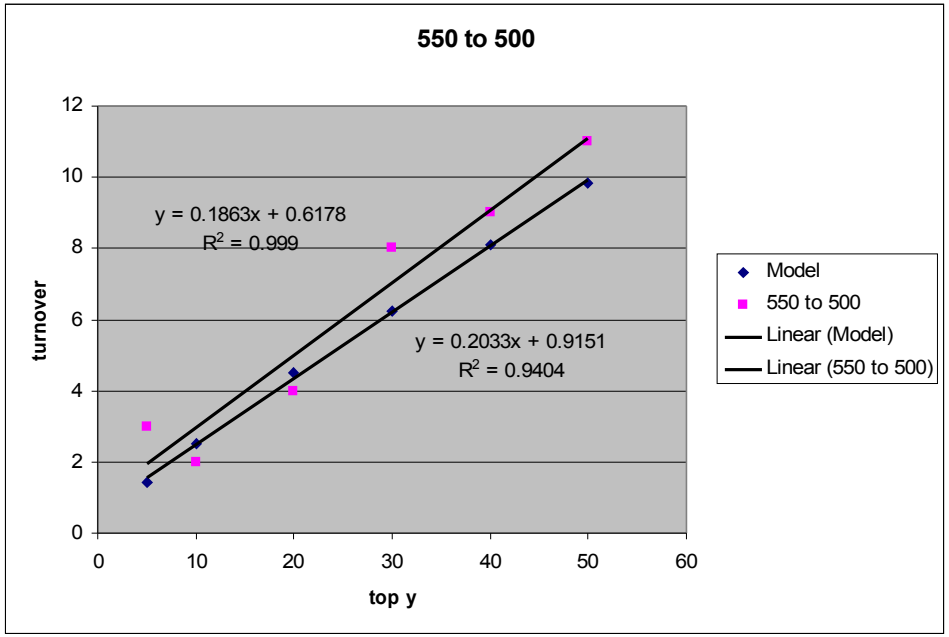
5.60. Turnover rate for the 10 motifs with the highest variability, across all shapes and techniques (showing 550 – 500 onwards only).



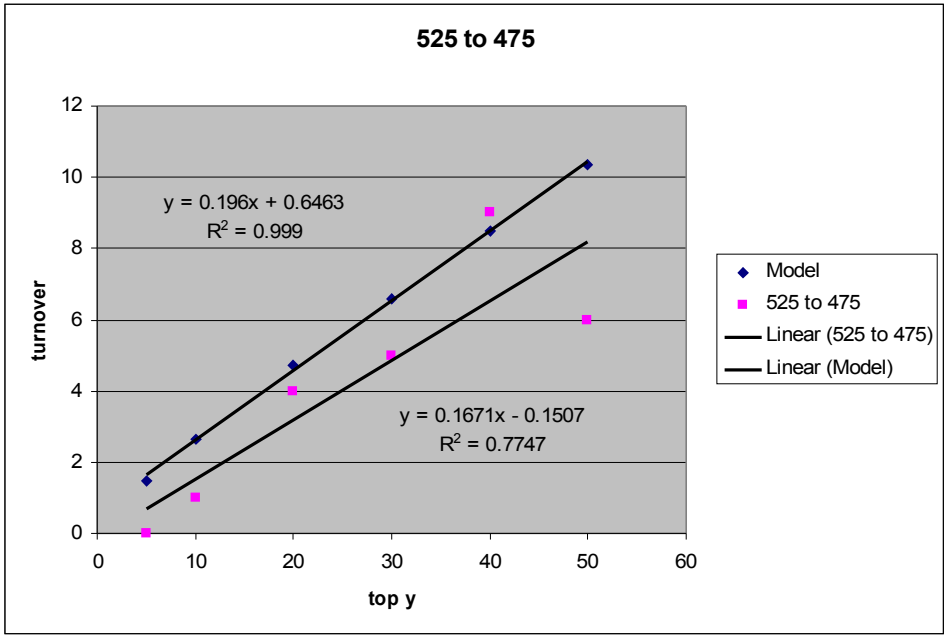
5.61. Turnover rate for motifs by top y, all shapes, all techniques.



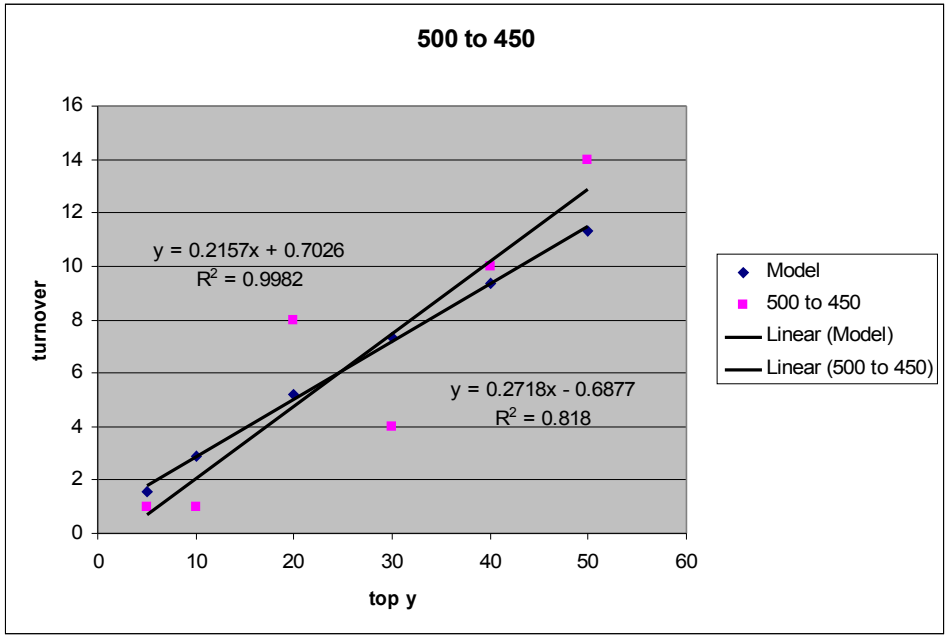
5.62. Turnover rate of model vs. data, 575 to 525, all shapes, all techniques.



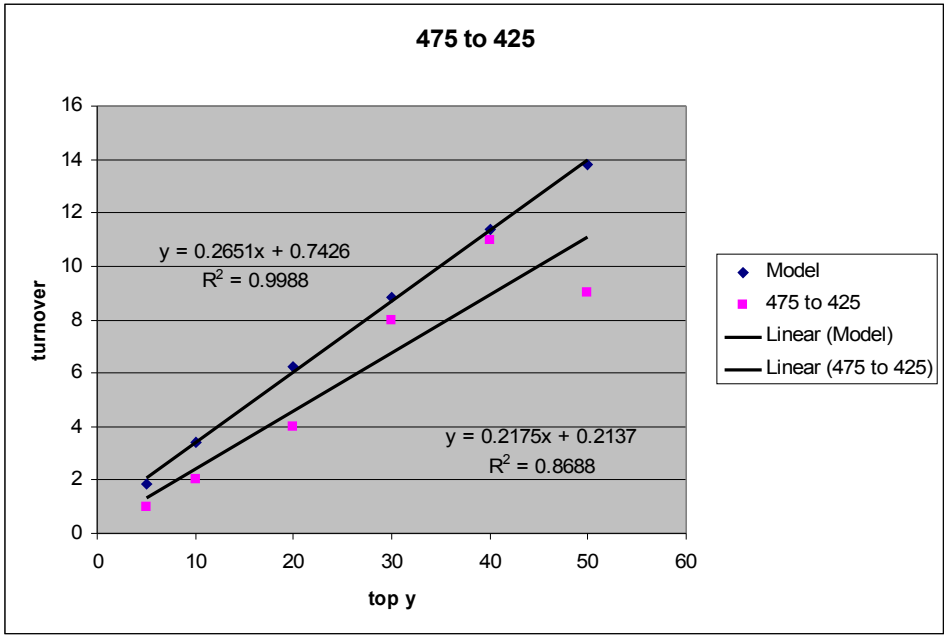
5.63. Turnover rate of model vs. data, 550 to 500, all shapes, all techniques.



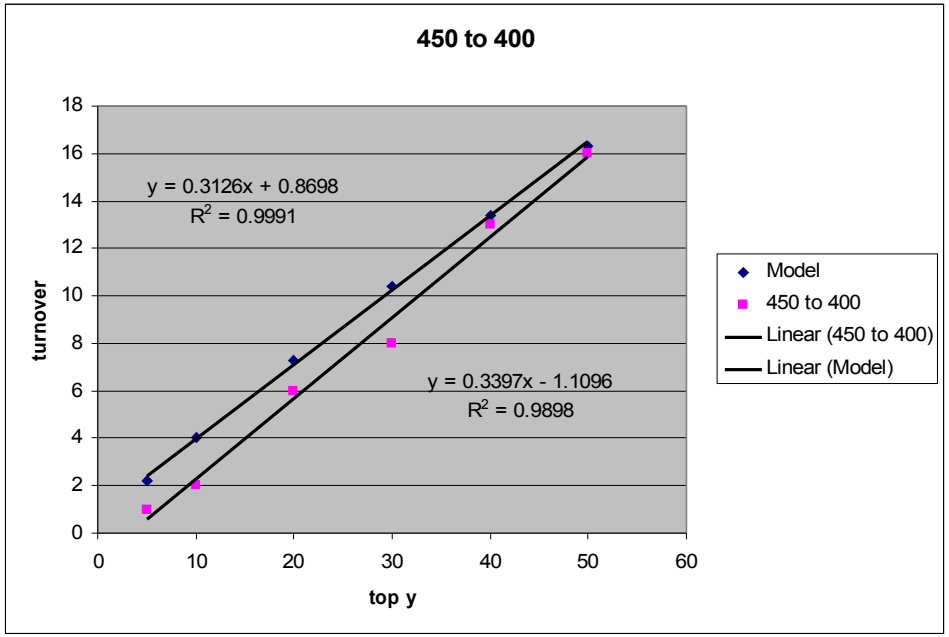
5.64. Turnover rate of model vs. data, 525 to 475, all shapes, all techniques.



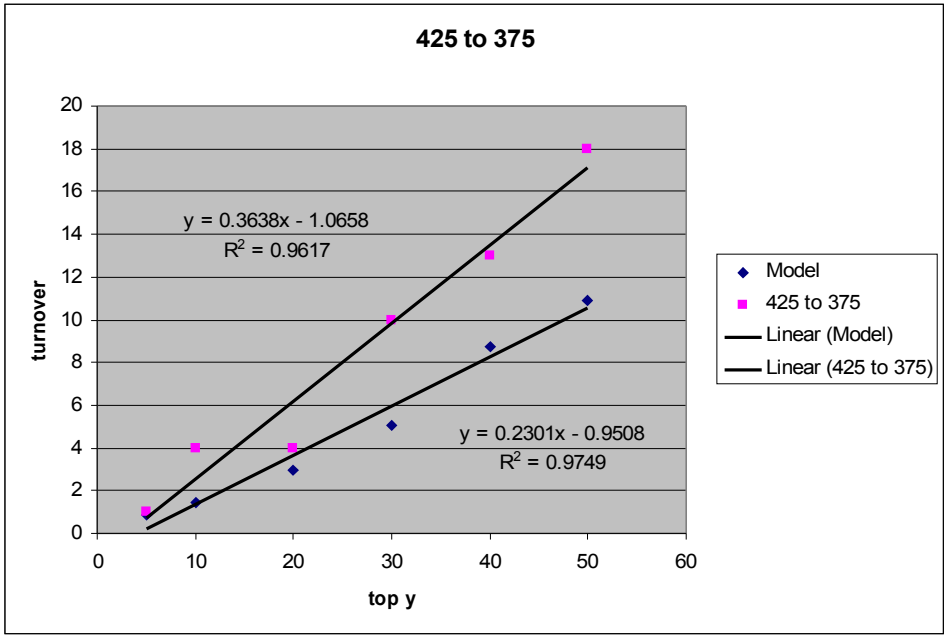
5.65. Turnover rate of model vs. data, 500 to 450, all shapes, all techniques.



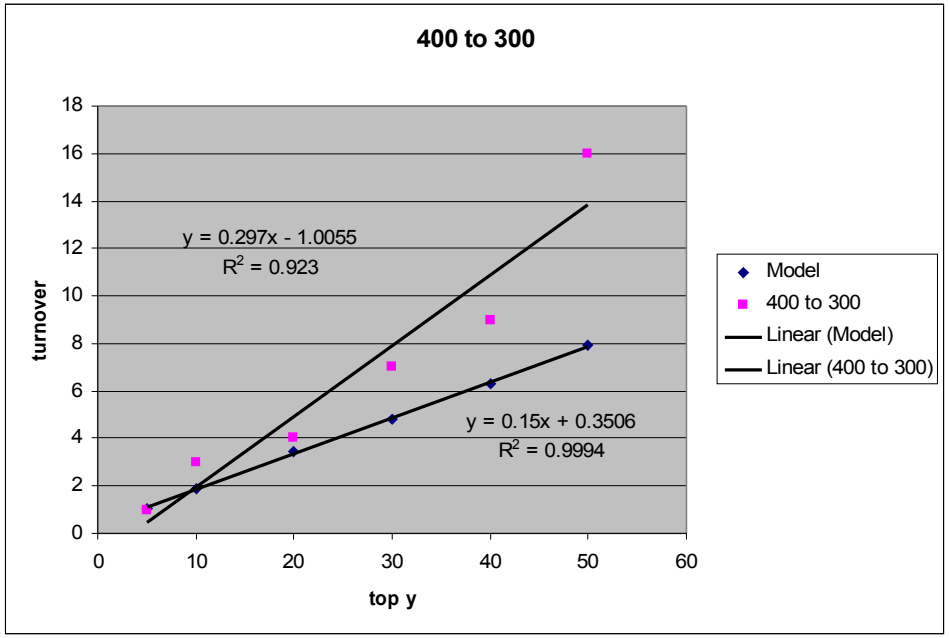
5.66. Turnover rate of model vs. data, 475 to 425, all shapes, all techniques.



5.67. Turnover rate of model vs. data, 450 to 400, all shapes, all techniques.

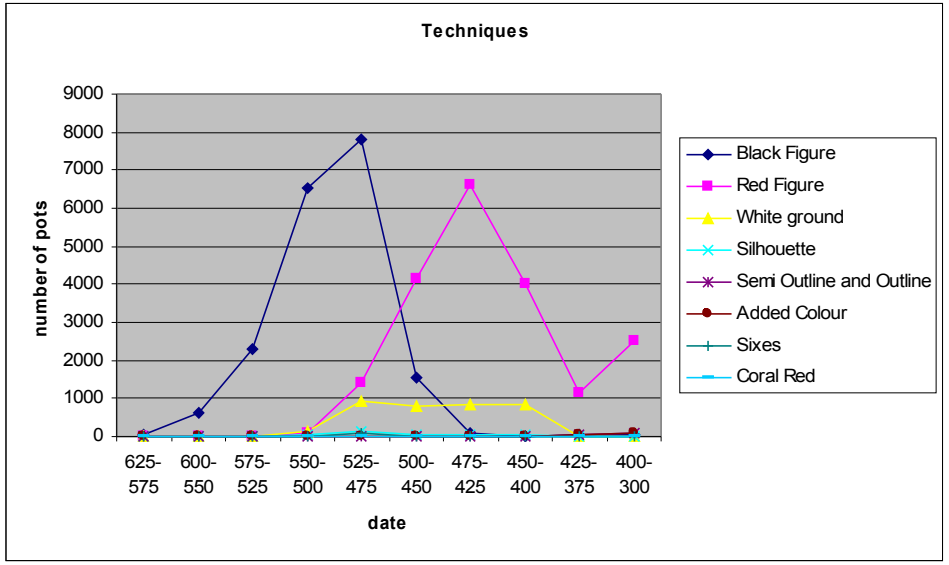


5.68. Turnover rate of model vs. data, 425 to 375, all shapes, all techniques.

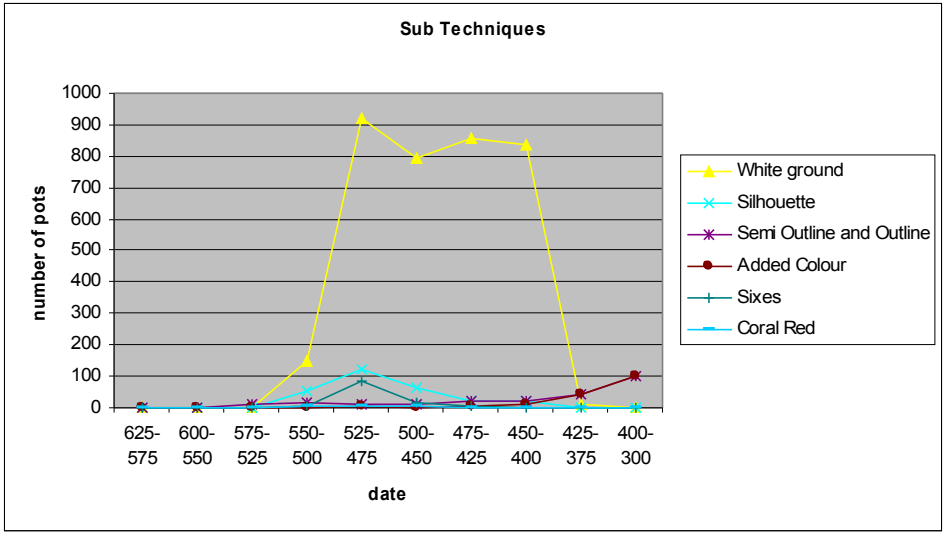


5.69. Turnover rate of model vs. data, 425 to 375, all shapes, all techniques.

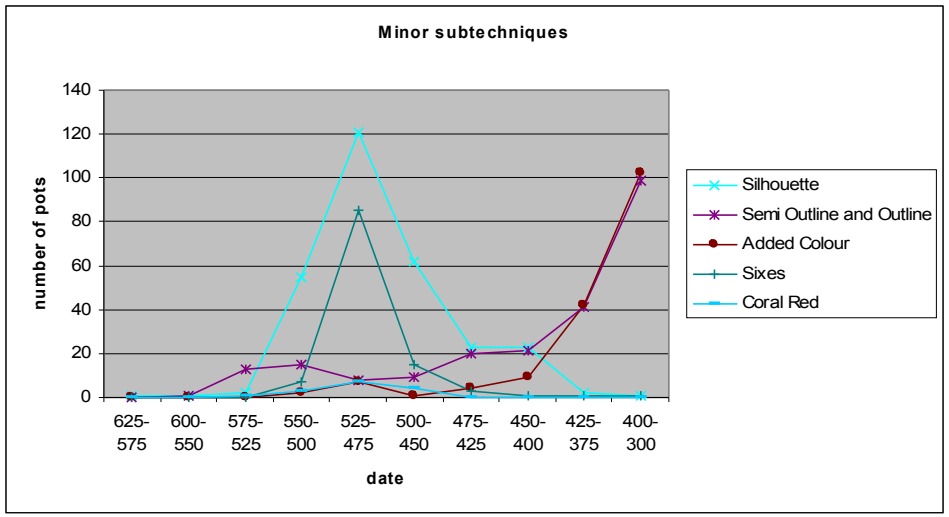
Figures Chapter 6



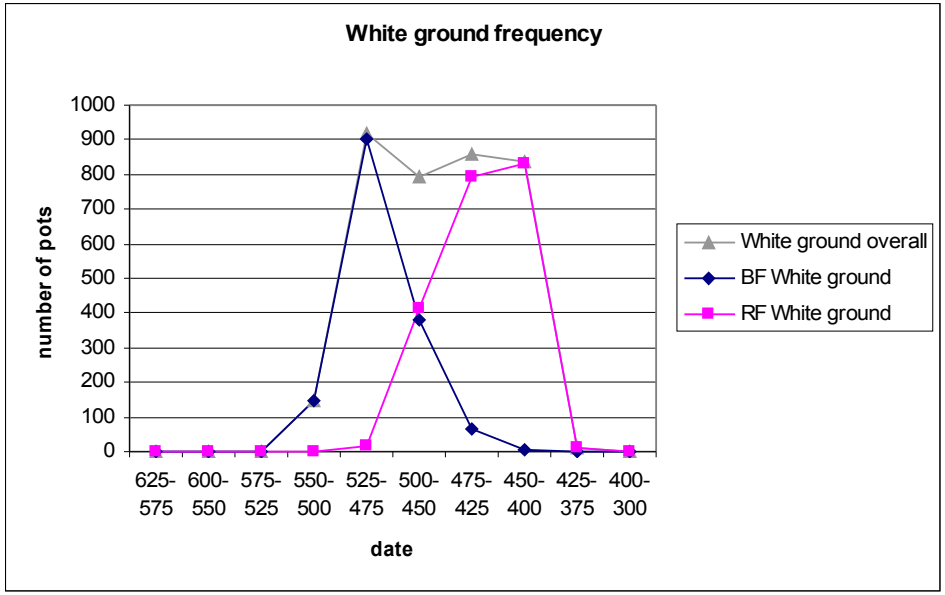
6.1. All techniques, by date and number of pots.



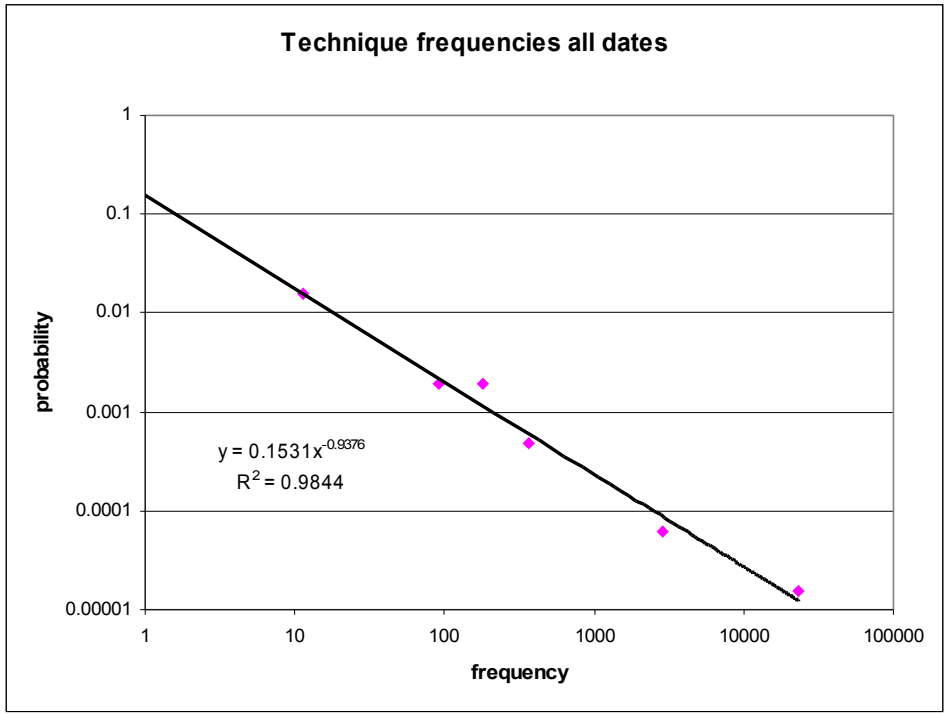
6.2. Sub techniques, by date and number of pots.



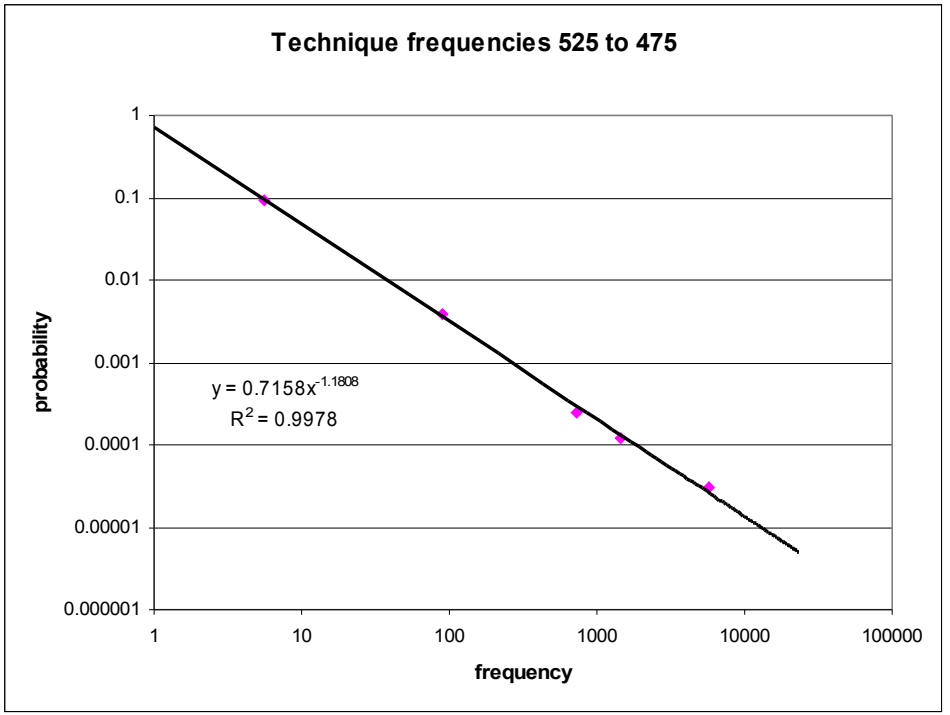
6.3. Minor sub techniques, by date and number of pots.



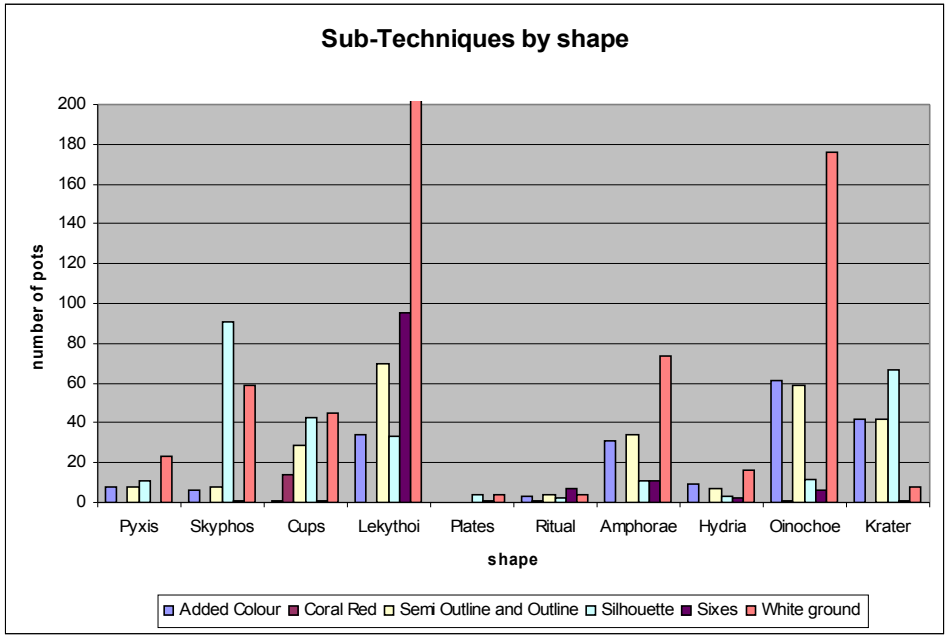
6.4. White ground as a sub-technique of black-figure and red-figure.



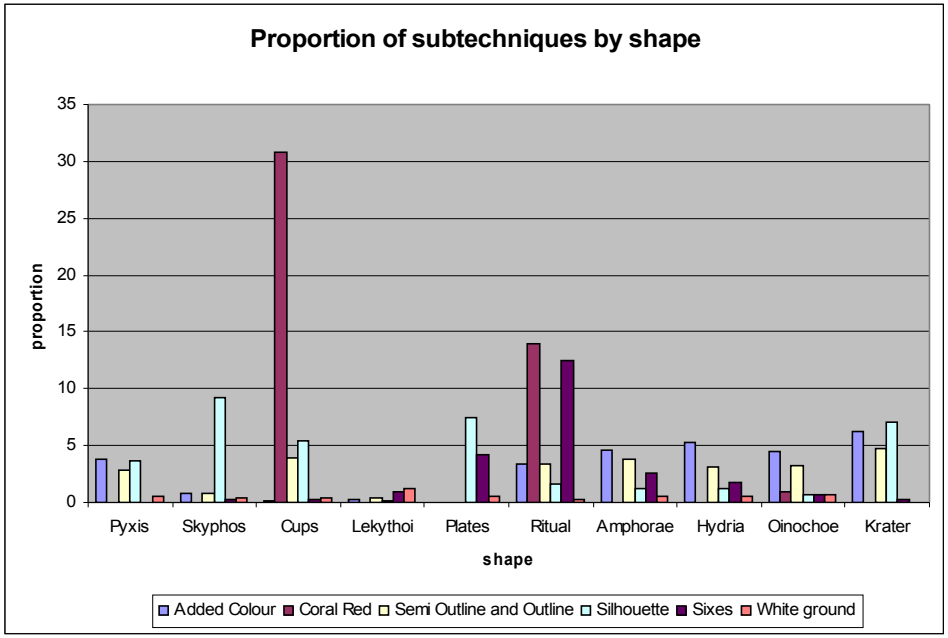
6.5 Log log plot showing the probabilities of the frequencies of all techniques, all dates.



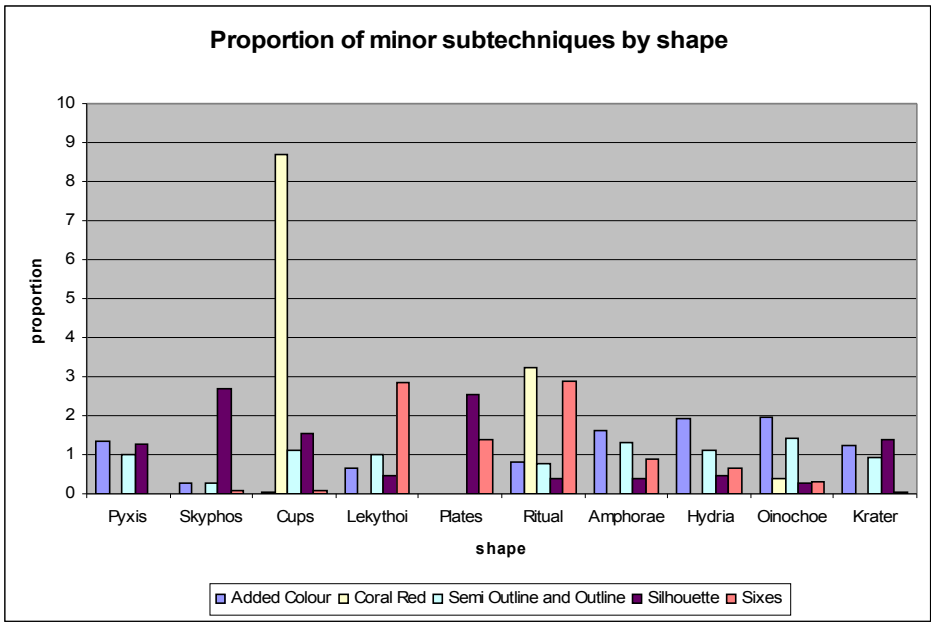
6.6 Log log plot showing the probabilities of the frequencies of all techniques, 525 to 475 only.



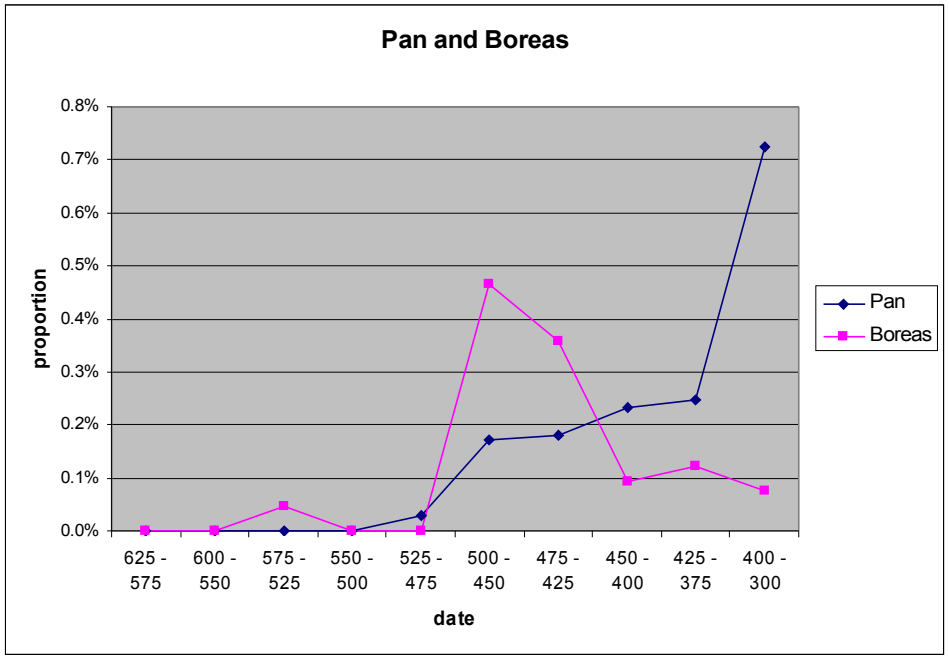
6.7. Distribution of sub-techniques across shapes. Value for white ground lekythoi = 3,353.



6.8. Proportions of expected totals of sub-techniques across shapes.

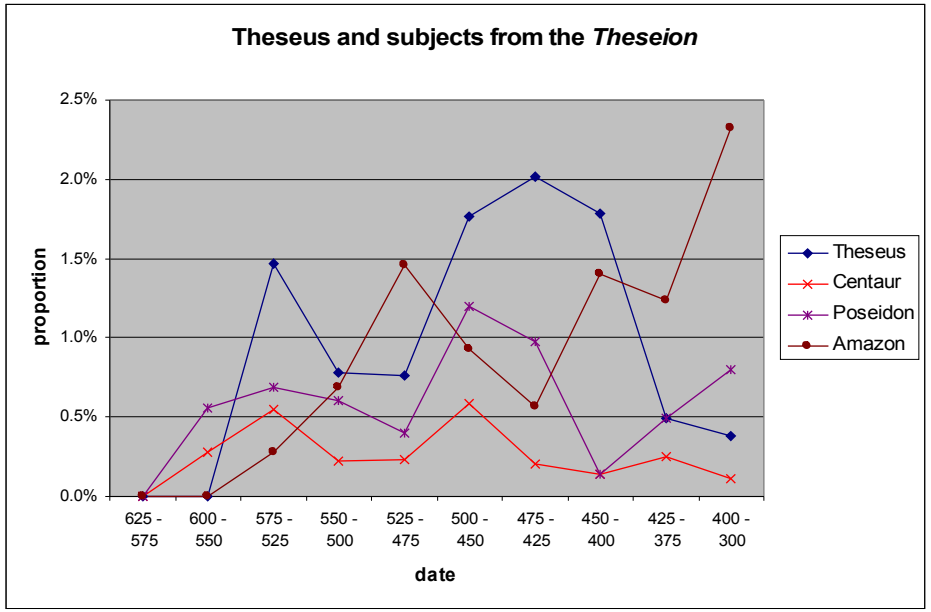


6.9. Proportions of expected totals of minor sub-techniques (not white ground) across shapes.

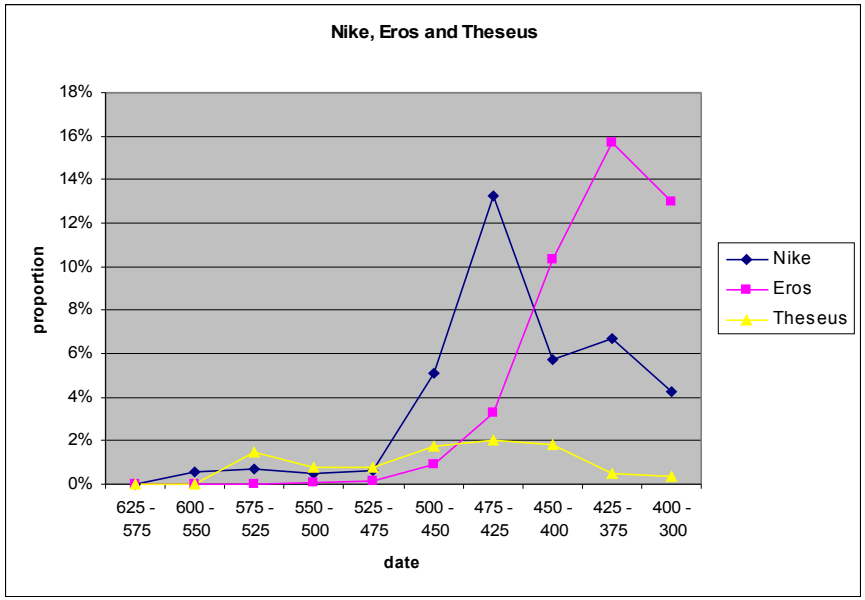


7.1. Pan and Boreas. Proportions on all shapes in all techniques.

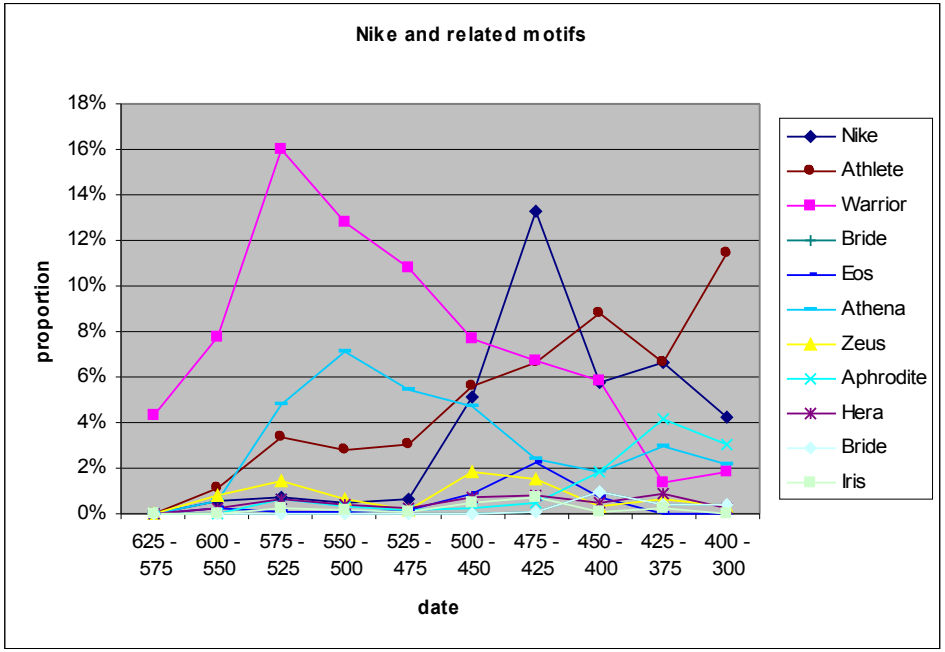
7.2. Theseus and related motifs. Proportions on all shapes in all techniques.



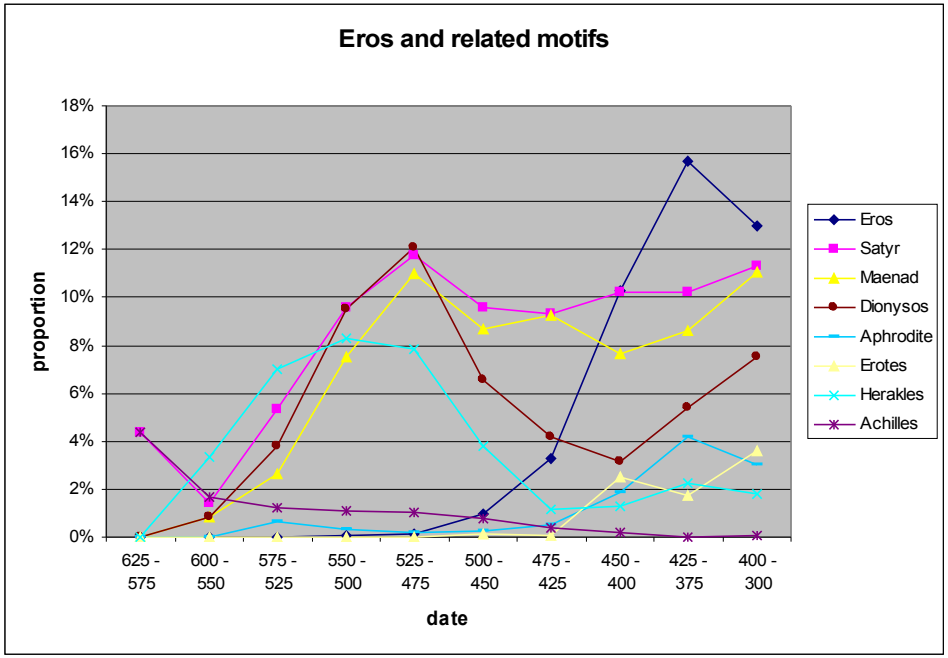
7.3. Theseus and subjects from the *Theseion*. Proportions on all shapes in all techniques.



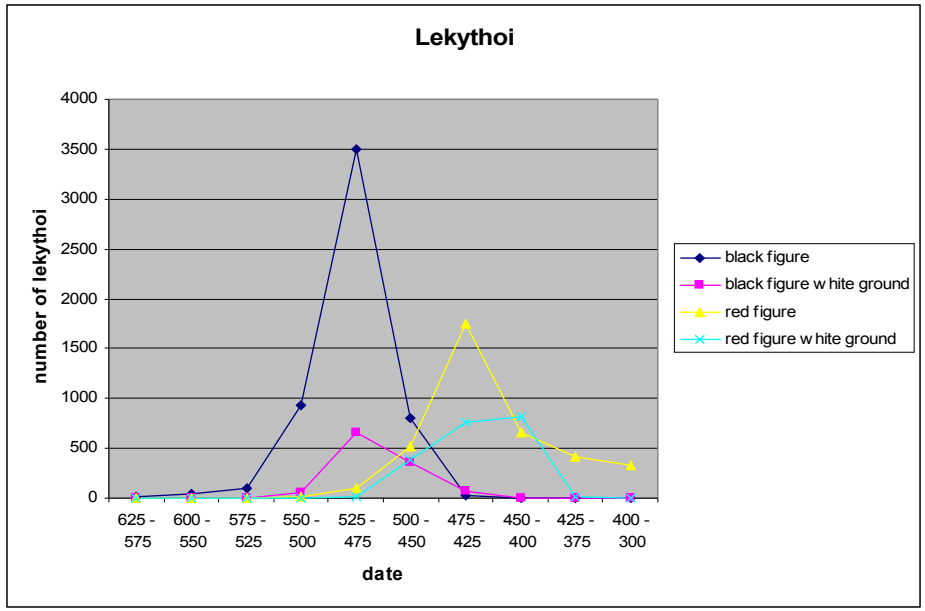
7.4. Relative popularity of Nike, Eros and Theseus across all shapes and in all techniques.



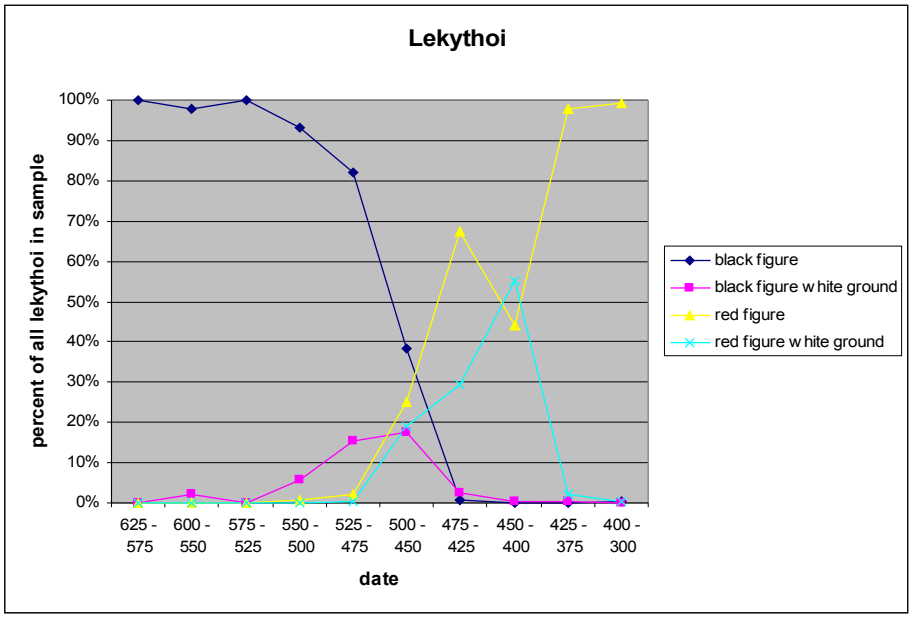
7.5. Relative popularity of Nike and related motifs across all shapes and in all techniques.



7.6. Relative popularity of Eros and related motifs across all shapes and in all techniques.



7.7 Number of lekythoi by technique.



7.8 Proportion of techniques used on lekythoi.