Survival_models

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Survival models

We report here the AIC of all the model tested for each of the 6 populations.

Lower Idrijca

```
##
                                             model npar
                                                              AIC
                                                                   DeltaAIC
## 8
                       Phi(~bs(heter))p(~bs(Age))
                                                       8 3043.909
                                                                   0.000000
              Phi(~bs(heter) + Season)p(~bs(Age))
## 11
                                                       9 3045.060
                                                                   1.150967
## 7
                                Phi(~1)p(~bs(Age))
                                                       5 3046.436
                                                                   2.527501
## 14
                          Phi(~Season)p(~bs(Age))
                                                       6 3047.539
                                                                   3.630005
## 9
                            Phi(~heter)p(~bs(Age))
                                                       6 3047.823
                                                                   3.914049
## 10
                  Phi(~heter + Season)p(~bs(Age))
                                                       7 3048.901
                                                                   4.992350
              Phi(~bs(heter) * Season)p(~bs(Age))
##
  13
                                                      12 3049.806
                                                                   5.897018
##
                  Phi(~heter * Season)p(~bs(Age))
                                                       8 3050.817
  12
                                                                   6.908406
## 5
                  Phi(~Coh_n + Season)p(~bs(Age))
                                                      22 3052.470
                                                                   8.560975
               Phi(~Coh_n + bs(heter))p(~bs(Age))
## 1
                                                      24 3052.558
                                                                   8.649731
##
      Phi(~Coh_n + bs(heter) * Season)p(~bs(Age))
                                                      28 3058.423 14.514430
## 2
                   Phi(~Coh_n * heter)p(~bs(Age))
                                                      38 3060.873 16.964082
## 6
                  Phi(~Coh_n * Season)p(~bs(Age))
                                                      38 3061.390 17.481205
## 3
      Phi(~Coh_n * bs(heter) + Season)p(~bs(Age))
                                                      73 3077.151 33.242200
##
            weight neg2lnl convergence
## 8
     4.266732e-01 3027.909
## 11 2.399750e-01 3027.060
                                       0
      1.205745e-01 3036.436
                                       0
## 14 6.947842e-02 3035.539
                                       0
     6.027960e-02 3035.823
                                       0
## 10 3.515770e-02 3034.901
                                       0
## 13 2.236527e-02 3025.806
                                       0
## 12 1.348820e-02 3034.817
                                       0
## 5
    5.903414e-03 3008.470
                                       0
      5.647161e-03 3004.558
                                       0
## 1
## 4
      3.008340e-04 3002.423
                                       0
## 2
      8.838768e-05 2984.873
                                       0
     6.824956e-05 2985.390
                                       0
     2.580140e-08 2931.151
## 3
                                       0
```

Upper Idrijca

```
##
                                              model npar
                                                              AIC
                                                                   DeltaAIC
## 7
                                Phi(~1)p(~bs(Age))
                                                                    0.00000
                                                       5 2605.229
                        Phi(~bs(heter))p(~bs(Age))
## 8
                                                       8 2606.396
                                                                    1.166990
## 9
                            Phi(~heter)p(~bs(Age))
                                                       6 2606.648
                                                                    1.419354
## 14
                           Phi(~Season)p(~bs(Age))
                                                       6 2606.674
                                                                    1.444969
              Phi(~bs(heter) + Season)p(~bs(Age))
## 11
                                                       9 2607.895
                                                                    2.666752
                  Phi(~heter * Season)p(~bs(Age))
## 12
                                                       8 2608.106
                                                                   2.877264
```

```
## 10
                  Phi(~heter + Season)p(~bs(Age))
                                                      7 2608.124 2.895476
## 13
              Phi(~bs(heter) * Season)p(~bs(Age))
                                                     12 2611.749 6.520115
## 1
               Phi(~Coh n + bs(heter))p(~bs(Age))
                                                     24 2622.737 17.508160
                  Phi(~Coh_n + Season)p(~bs(Age))
## 5
                                                     22 2623.612 18.383699
## 4
      Phi(~Coh_n + bs(heter) * Season)p(~bs(Age))
                                                     28 2628.427 23.198250
## 6
                  Phi(~Coh n * Season)p(~bs(Age))
                                                     38 2635.878 30.649421
## 2
                   Phi(~Coh n * heter)p(~bs(Age))
                                                     38 2643.269 38.039978
     Phi(~Coh_n * bs(heter) + Season)p(~bs(Age))
## 3
                                                     73 2687.081 81.852652
##
            weight neg2lnl convergence
      3.021251e-01 2595.229
## 7
     1.685691e-01 2590.396
                                       0
                                       0
     1.485860e-01 2594.648
## 9
## 14 1.466952e-01 2594.674
                                       0
                                       0
## 11 7.963592e-02 2589.895
## 12 7.167980e-02 2592.106
                                       0
## 10 7.103008e-02 2594.124
                                       0
## 13 1.159743e-02 2587.749
                                       0
     4.768021e-05 2574.737
     3.077637e-05 2579.612
                                       0
     2.771730e-06 2572.427
                                       0
## 6 6.679587e-08 2559.878
                                      Λ
## 2 1.659245e-09 2567.269
## 3 5.082872e-19 2541.081
                                       Λ
```

Lipovscek

```
##
                                       model npar
                                                       AIC DeltaAIC
                                                5 1384.177 0.00000
## 4
              Phi(~Coh.pflood * Flood)p(~1)
## 10
                           Phi(~Flood)p(~1)
                                                3 1394.197 10.02029
## 3
              Phi(~Coh.pflood + Flood)p(~1)
                                                4 1394.492 10.31492
## 11
                   Phi(~Flood + heter)p(~1)
                                                4 1395.873 11.69608
## 6
      Phi(~Coh.pflood + heter + Flood)p(~1)
                                                5 1396.334 12.15639
## 7
      Phi(~Coh.pflood * heter + Flood)p(~1)
                                                6 1397.177 12.99942
## 12
                   Phi(~Flood * heter)p(~1)
                                                5 1397.667 13.48970
## 2
                      Phi(~Coh.pflood)p(~1)
                                                3 1439.107 54.92968
## 5
              Phi(~Coh.pflood + heter)p(~1)
                                                4 1441.025 56.84767
## 8
              Phi(~Coh.pflood * heter)p(~1)
                                                5 1442.456 58.27916
## 1
                           Phi(~Coh_n)p(~1)
                                               15 1445.648 61.47095
## 13
                          Phi(~Season)p(~1)
                                                3 1462.351 78.17388
## 9
                               Phi(~1)p(~1)
                                                2 1475.764 91.58671
            weight neg2lnl convergence
## 4 9.801184e-01 1374.177
## 10 6.537332e-03 1388.197
                                       0
                                       0
## 3 5.641864e-03 1386.492
## 11 2.828174e-03 1387.873
                                       0
## 6 2.246736e-03 1386.334
                                       0
## 7 1.473979e-03 1385.177
                                       0
## 12 1.153524e-03 1387.667
                                       0
## 2 1.157311e-12 1433.107
                                       0
     4.435709e-13 1433.025
                                       0
## 8 2.168304e-13 1432.456
                                       0
     4.395735e-14 1415.648
                                       0
## 13 1.037613e-17 1456.351
                                       0
```

Zadla

```
##
                                                  DeltaAIC
                            model npar
                                             AIC
                                                                  weight
## 9
         Phi(~heter + Flood)p(~1)
                                      4 333.5309
                                                  0.000000 7.977238e-01
## 7 Phi(~bs(heter) + Flood)p(~1)
                                      6 336.4773
                                                  2.946392 1.828318e-01
## 5
                     Phi(~1)p(~1)
                                      2 341.7745 8.243527 1.293580e-02
                 Phi(~heter)p(~1)
## 8
                                     3 343.6644 10.133469 5.028028e-03
             Phi(~bs(heter))p(~1)
## 6
                                      5 346.7151 13.184144 1.093836e-03
## 2
         Phi(~Coh_n + Flood)p(~1)
                                     17 348.7948 15.263894 3.866696e-04
## 1 Phi(~Coh_n + bs(heter))p(~1)
                                     19 366.8008 33.269842 4.757712e-08
         Phi(~Coh_n * Flood)p(~1)
## 3
                                     31 371.0296 37.498691 5.742690e-09
## 4
         Phi(~Coh_n * heter)p(~1)
                                     31 378.8705 45.339589 1.138901e-10
##
      neg2lnl convergence
## 9 325.5309
## 7 324.4773
                        0
## 5 337.7745
                        0
## 8 337.6644
                        0
## 6 336.7151
## 2 314.7948
                        0
## 1 328.8008
                        0
## 3 309.0296
                        0
## 4 316.8705
```

Trebuscica

```
##
                               model npar
                                               AIC DeltaAIC
                 Phi(~heter)p(~time)
                                       10 740.2908
                                                    0.000000 5.442235e-01
             Phi(~bs(heter))p(~time)
## 5
                                       12 741.5270
                                                    1.236225 2.933152e-01
                     Phi(~1)p(~time)
## 4
                                        9 742.7910 2.500230 1.559047e-01
                 Phi(~Coh_n)p(~time)
                                       21 750.1759 9.885164 3.883660e-03
## 2 Phi(~Coh_n + bs(heter))p(~time)
                                       24 750.9284 10.637637 2.665900e-03
## 3
         Phi(~Coh_n * heter)p(~time)
                                       34 762.8036 22.512822 7.033639e-06
##
      neg2lnl convergence
## 6 720.2908
## 5 717.5270
                        0
## 4 724.7910
                        0
## 1 708.1759
                        0
## 2 702.9284
## 3 694.8036
                        0
```

Zakojska

```
##
                                         model npar
                                                          AIC
                                                                 DeltaAIC
                                                  7 3450.571
      Phi(~heter * Coh.pflood + Flood)p(~Age)
                                                                0.0000000
      Phi(~heter + Coh.pflood + Flood)p(~Age)
## 3
                                                  6 3451.525
                                                                0.9547646
              Phi(~Coh.pflood + Flood)p(~Age)
## 1
                                                  5 3453.426
                                                                2.8549194
## 2
              Phi(~Coh.pflood * Flood)p(~Age)
                                                  6 3455.426
                                                                4.8549194
## 7
               Phi(~bs(heter) + Flood)p(~Age)
                                                  7 3490.704
                                                               40.1334527
                   Phi(~heter + Flood)p(~Age)
## 8
                                                  5 3494.448
                                                               43.8772681
## 6
                           Phi(~Flood)p(~Age)
                                                  4 3494.604
                                                               44.0336054
```

```
## 9
                      Phi(~bs(heter))p(~Age)
                                               6 3833.347 382.7759227
## 10
                          Phi(~heter)p(~Age)
                                               4 3850.410 399.8393180
## 5
                              Phi(~1)p(~Age)
                                               3 3855.893 405.3225361
##
          weight neg2lnl convergence
## 4 5.131933e-01 3436.571
## 3 3.183878e-01 3439.525
                                     0
## 1 1.231241e-01 3443.426
                                     0
## 2 4.529482e-02 3443.426
                                     0
## 7 9.894923e-10 3476.704
                                     0
## 8 1.522135e-10 3484.448
                                     0
## 6 1.407683e-10 3486.604
## 9 3.904320e-84 3821.347
                                    0
## 10 7.696198e-88 3842.410
                                     0
## 5 4.961472e-89 3849.893
                                    0
```