SIOFA Sharks

Annex 6: Priors derived from FishBase

DELEGATION OF THE EUROPEAN UNION

04 March, 2024

main shark's species caught by SIOFA

- Portuguese dogfish (*Centroscymnus coelolepis*)
- Birdbeak dogfish (*Deania calcea*)
- Kitefin shark (*Dalatias licha*)
- Gulper sharks (*Centrophorus spp*)
- Lanternshark (*Etmopterus spp*)

fisheries, ,depending on the areas are

- bottom longline
- midwater trawl
- demersal trawl
- demersal line

Data

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     [,1]           [,2]
[1,] "K"            "M"
[2,] "Winfinity"    "Loo"
[3,] "tmax"         "tm"
[4,] "Lm"           "Temperature"
[5,] "ln_margsd"    "rho"
[6,] "logitbound_h" "ln_r"

     [,1]           [,2]
[1,] "K"            "M"
[2,] "Winfinity"    "Loo"
[3,] "tmax"         "tm"
[4,] "Lm"           "Temperature"
[5,] "ln_margsd"    "rho"
[6,] "logitbound_h" "ln_r"
Error in Search_species(Genus = Genus, Species = Species) :
  Inputs not found in FishBase, please check spelling of predictive predictive predictive bythaelurus ba
     [,1]           [,2]
[1,] "K"            "M"
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[3,] "tmax"         "tm"
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[5,] "ln_margsd"    "rho"
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     [6,] "logitbound_h" "ln_r"
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     [3,] "tmax"         "tm"
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[2,]  "Winfinity"      "Loo"
[3,]  "tmax"           "tm"
[4,]  "Lm"             "Temperature"
[5,]  "ln_margsd"      "rho"
[6,]  "logitbound_h"   "ln_r"

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[2,]  "Winfinity"      "Loo"
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  3

        [,1]             [,2]
[1,]  "K"              "M"
[2,]  "Winfinity"      "Loo"
[3,]  "tmax"           "tm"
[4,]  "Lm"             "Temperature"
[5,]  "ln_margsd"      "rho"
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        [,1]             [,2]
[1,]  "K"              "M"
[2,]  "Winfinity"      "Loo"
[3,]  "tmax"           "tm"
[4,]  "Lm"             "Temperature"
[5,]  "ln_margsd"      "rho"
```
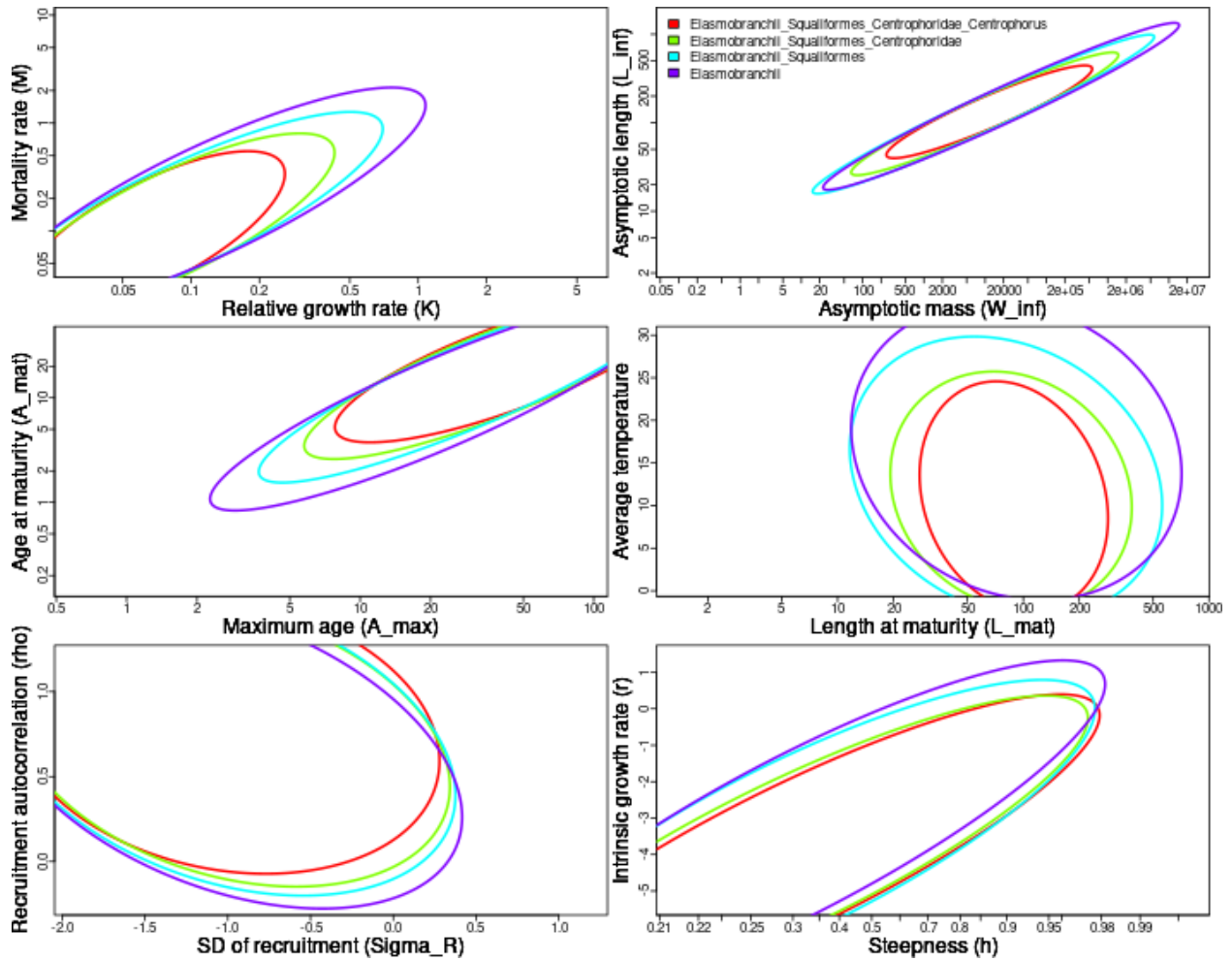
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[1,] "K"             "M"
[2,] "Winfinity"     "Loo"
[3,] "tmax"          "tm"
[4,] "Lm"            "Temperature"
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[6,] "logitbound_h" "ln_r"

          [,1]            [,2]
[1,] "K"             "M"
[2,] "Winfinity"     "Loo"
[3,] "tmax"          "tm"
[4,] "Lm"            "Temperature"
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[6,] "logitbound_h" "ln_r"

          [,1]            [,2]
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[2,] "Winfinity"     "Loo"
[3,] "tmax"          "tm"
[4,] "Lm"            "Temperature"
[5,] "ln_margsd"     "rho"
```
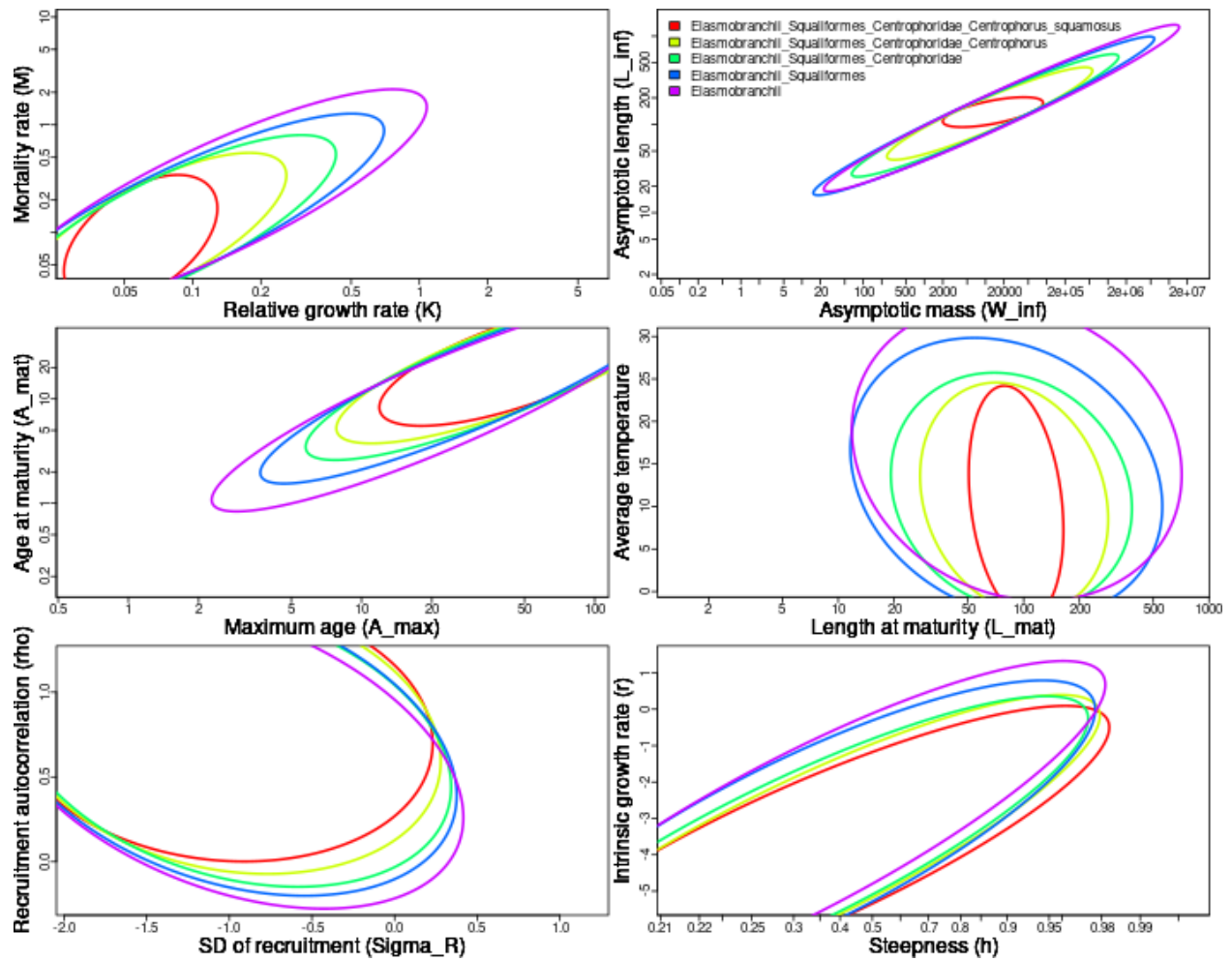
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[6,] "logitbound_h" "ln_r"
Error in if (Genus != "predictive") Match = Match[which(tolower(rfishbase::fishbase$Genus[Match]) == :
  missing value where TRUE/FALSE needed
     [,1]            [,2]
[1,] "K"             "M"
[2,] "Winfinity"     "Loo"
[3,] "tmax"          "tm"
[4,] "Lm"            "Temperature"
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[6,] "logitbound_h"  "ln_r"

     [,1]            [,2]
[1,] "K"             "M"
[2,] "Winfinity"     "Loo"
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[4,] "Lm"            "Temperature"
[5,] "ln_margsd"     "rho"
[6,] "logitbound_h"  "ln_r"
```
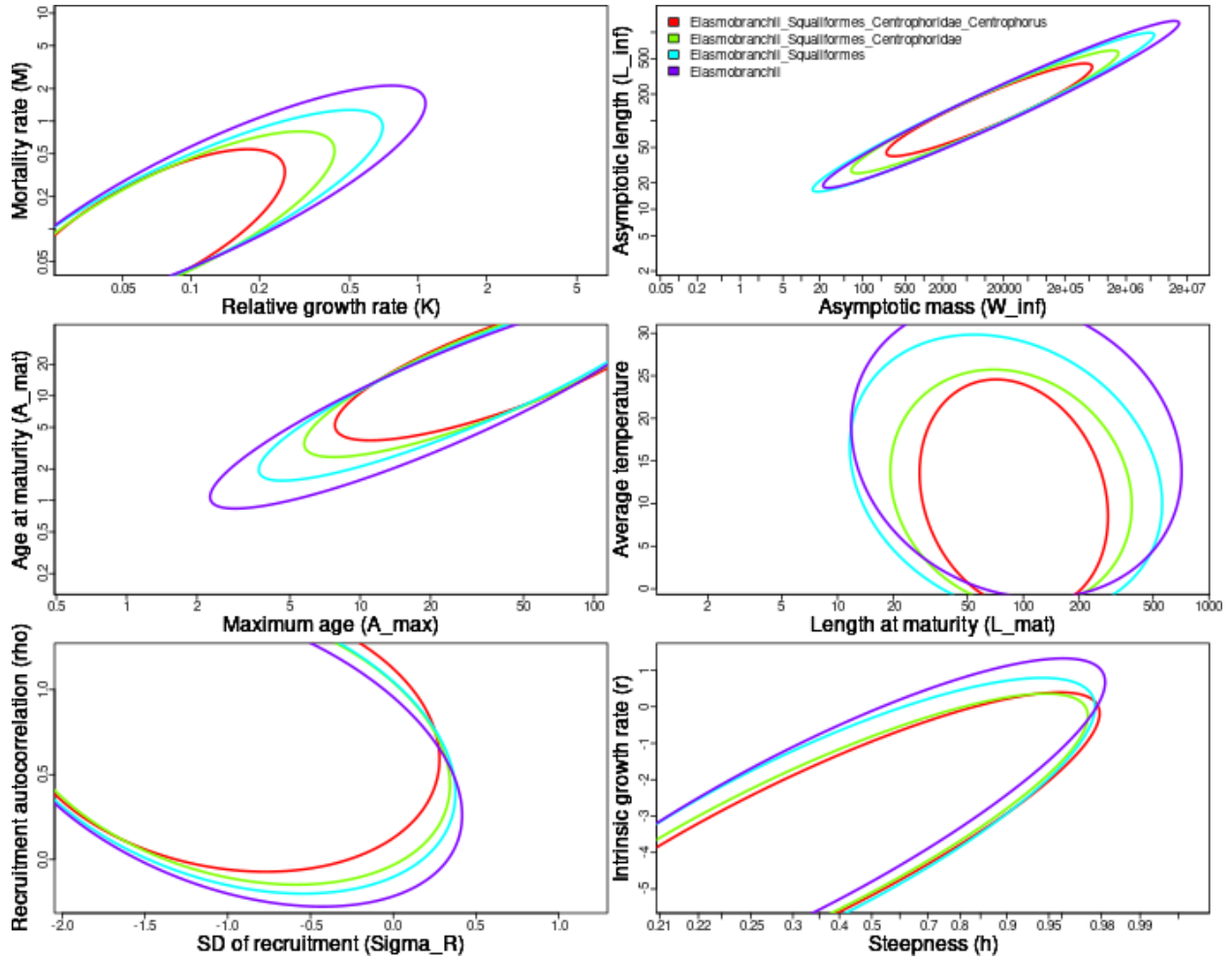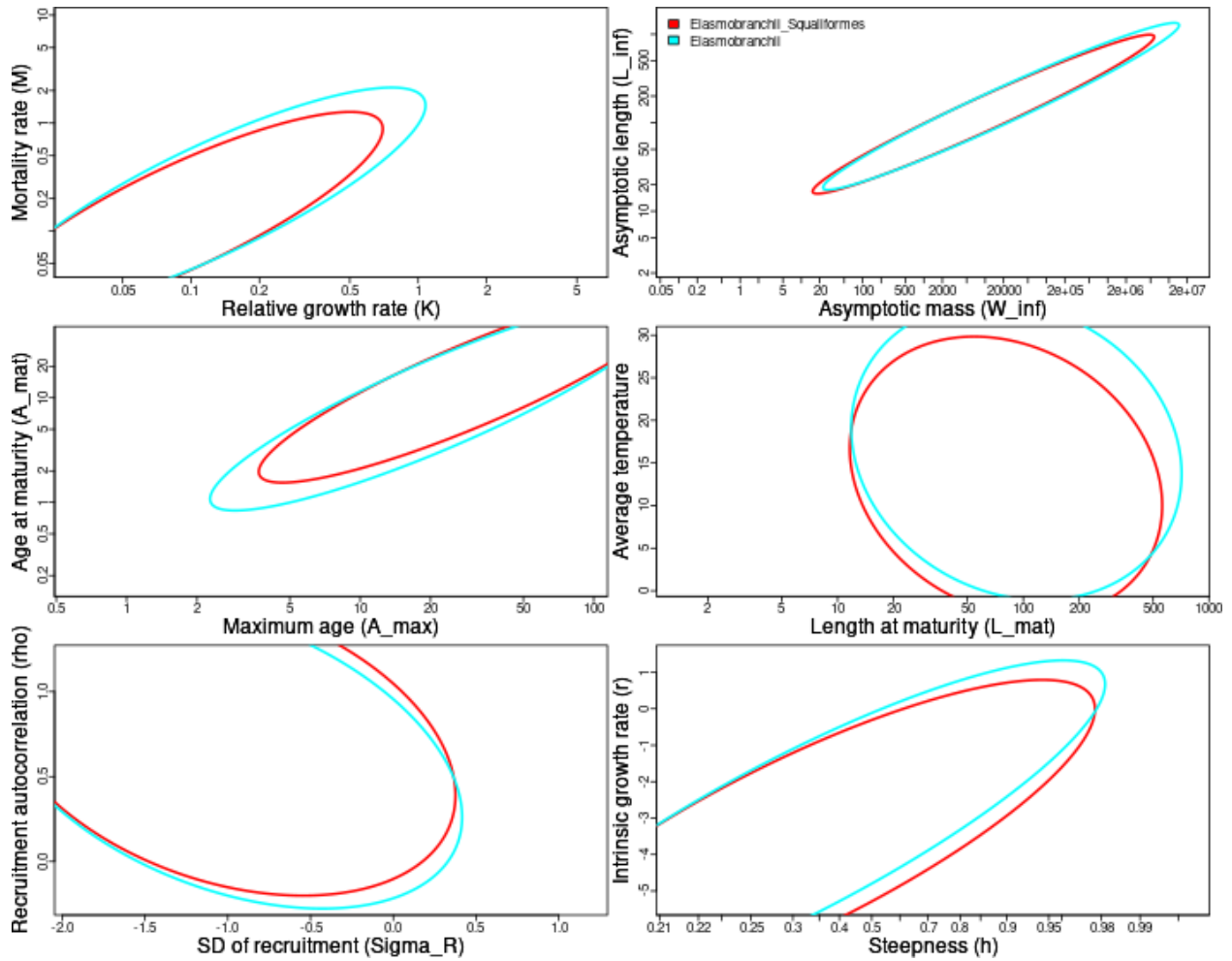
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          [,1]             [,2]
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```

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[2,]  "Winfinity"       "Loo"
[3,]  "tmax"            "tm"
[4,]  "Lm"              "Temperature"
[5,]  "ln_margsd"       "rho"
[6,]  "logitbound_h"    "ln_r"
```
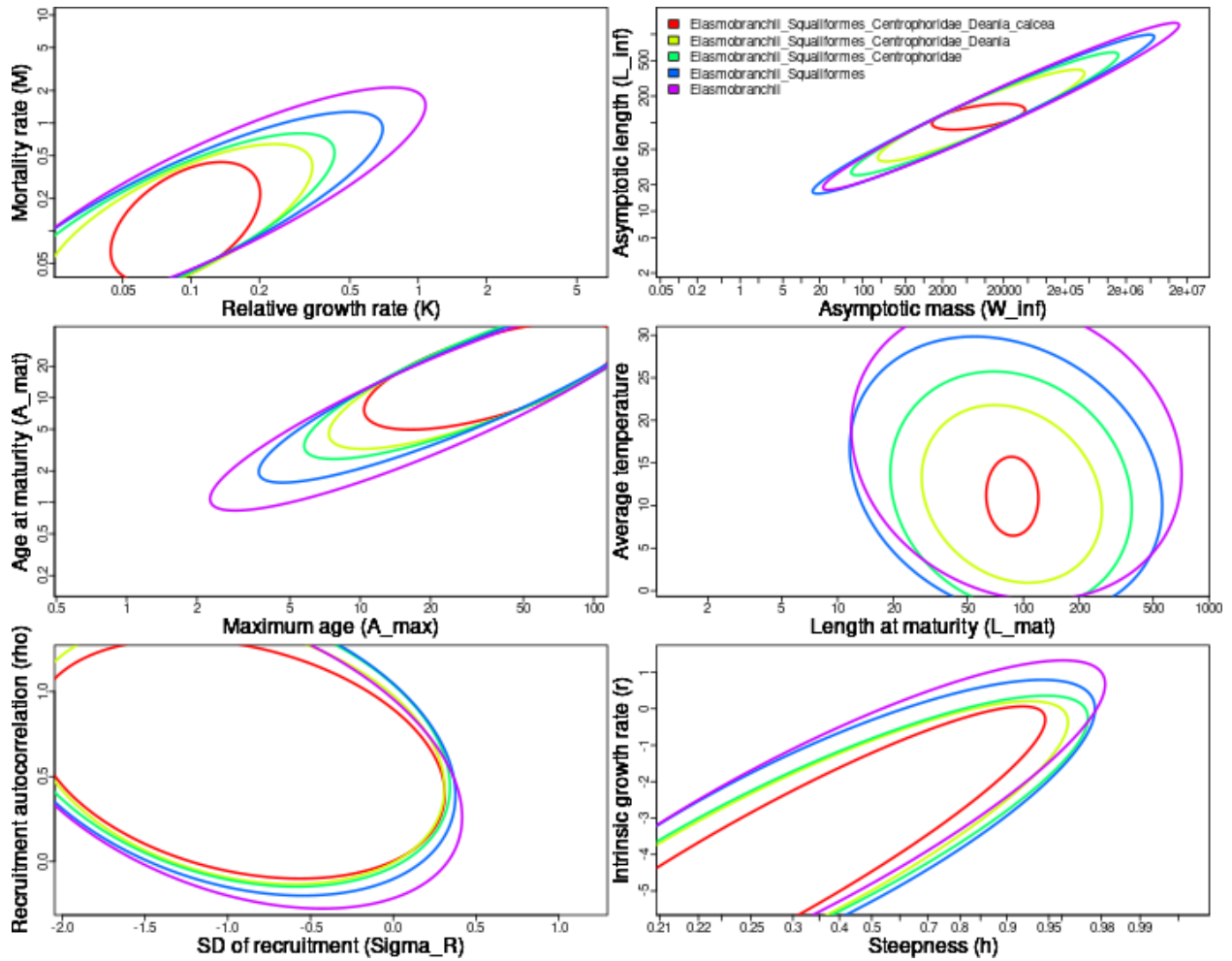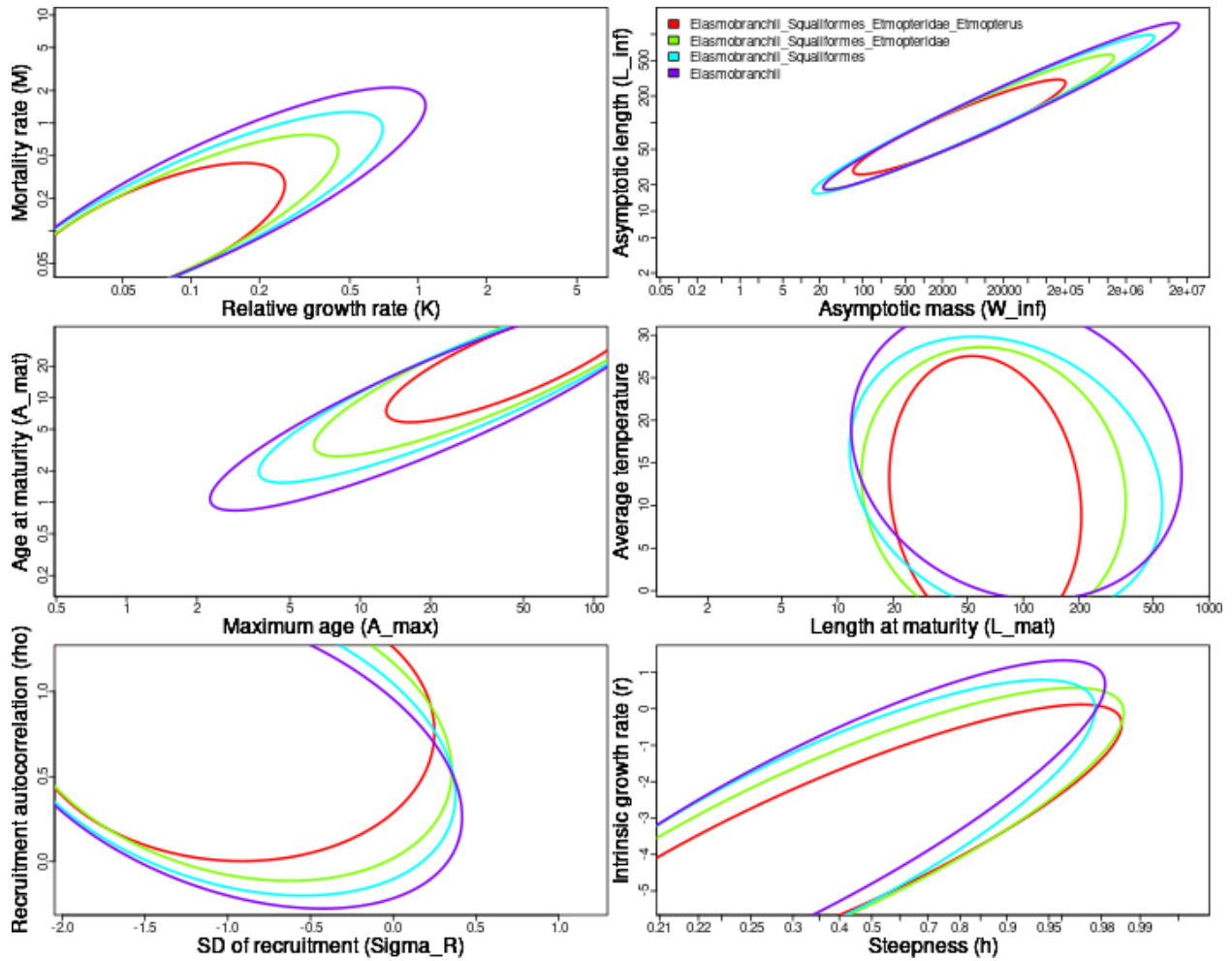
```
        [,1]            [,2]
[1,]  "K"             "M"
[2,]  "Winfinity"     "Loo"
[3,]  "tmax"          "tm"
[4,]  "Lm"            "Temperature"
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[3,]  "tmax"           "tm"
[4,]  "Lm"             "Temperature"
[5,]  "ln_margsd"      "rho"
[6,]  "logitbound_h"   "ln_r"
```
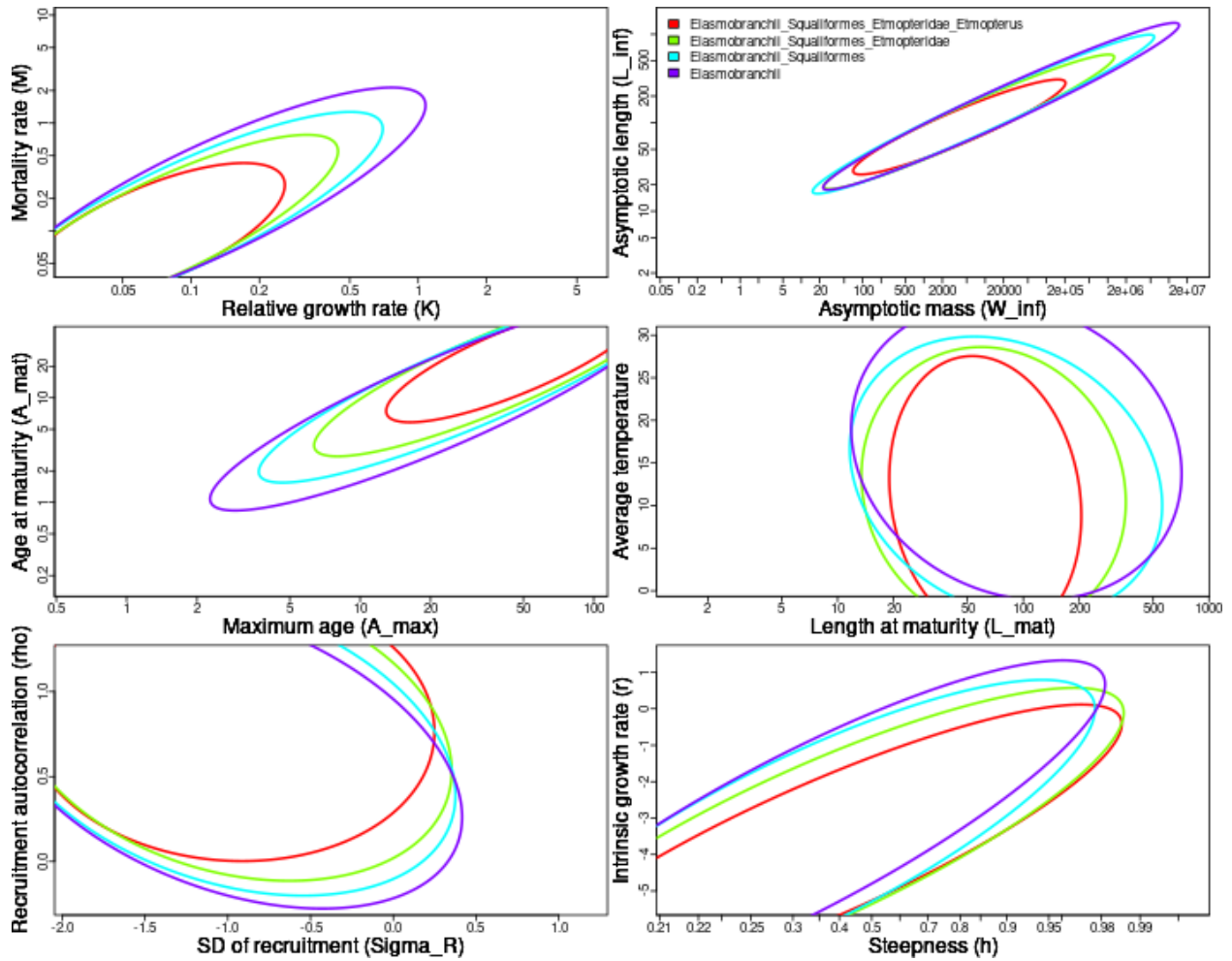
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[1,]  "K"               "M"
[2,]  "Winfinity"       "Loo"
[3,]  "tmax"            "tm"
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[6,]  "logitbound_h"    "ln_r"
```
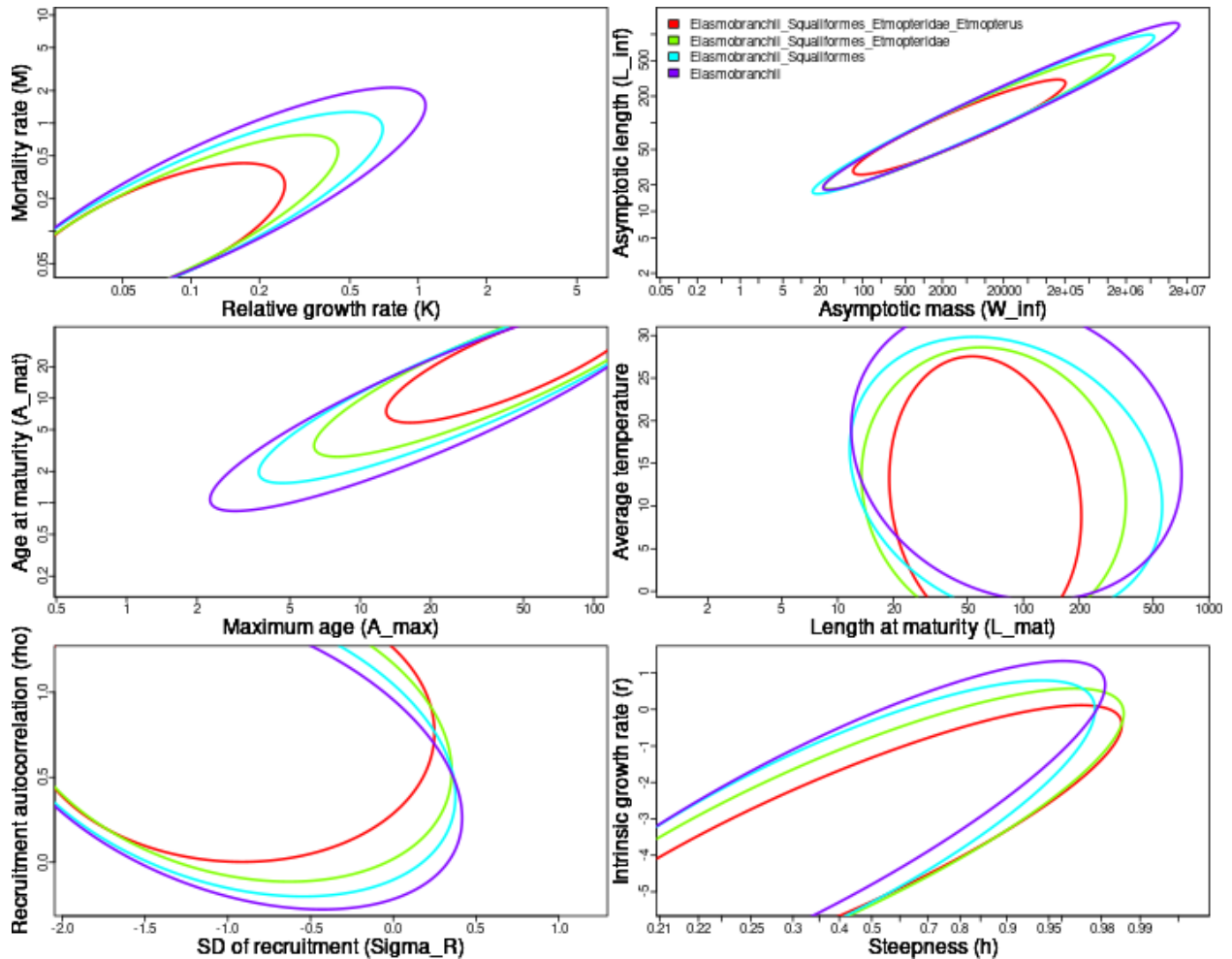
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         [,1]              [,2]
[1,] "K"                "M"
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      [,1]            [,2]
[1,] "K"             "M"
[2,] "Winfinity"     "Loo"
[3,] "tmax"          "tm"
[4,] "Lm"            "Temperature"
[5,] "ln_margsd"     "rho"
[6,] "logitbound_h"  "ln_r"

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      [,1]            [,2]
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```

```
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[2,] "Winfinity"     "Loo"
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Error in if (Genus != "predictive") Match = Match[which(tolower(rfishbase::fishbase$Genus[Match]) ==  :
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[6,] "logitbound_h"   "ln_r"

     [,1]             [,2]
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[2,] "Winfinity"      "Loo"
[3,] "tmax"           "tm"
[4,] "Lm"             "Temperature"
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[6,] "logitbound_h"   "ln_r"

     [,1]             [,2]
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[2,] "Winfinity"      "Loo"
[3,] "tmax"           "tm"
[4,] "Lm"             "Temperature"
[5,] "ln_margsd"      "rho"
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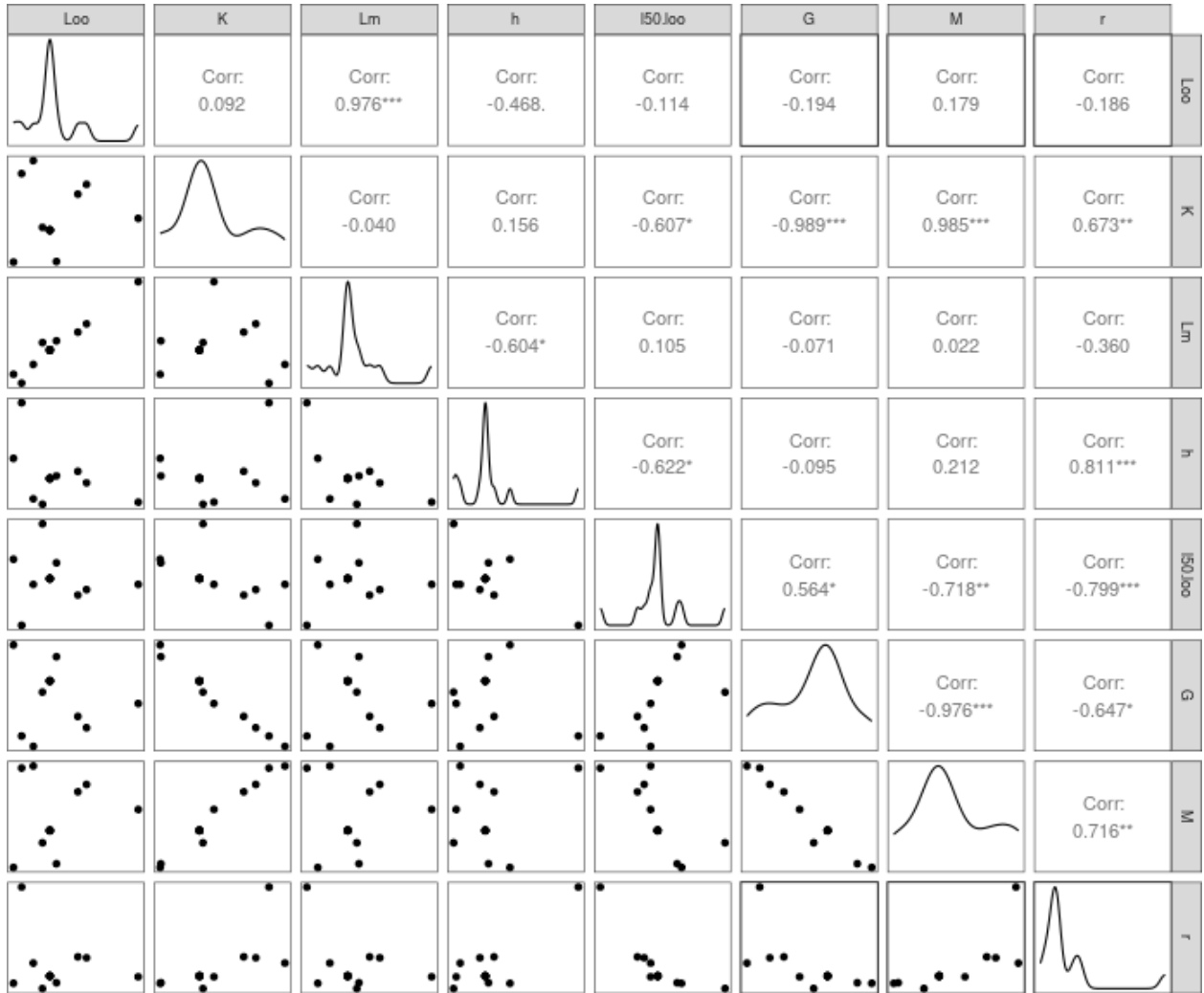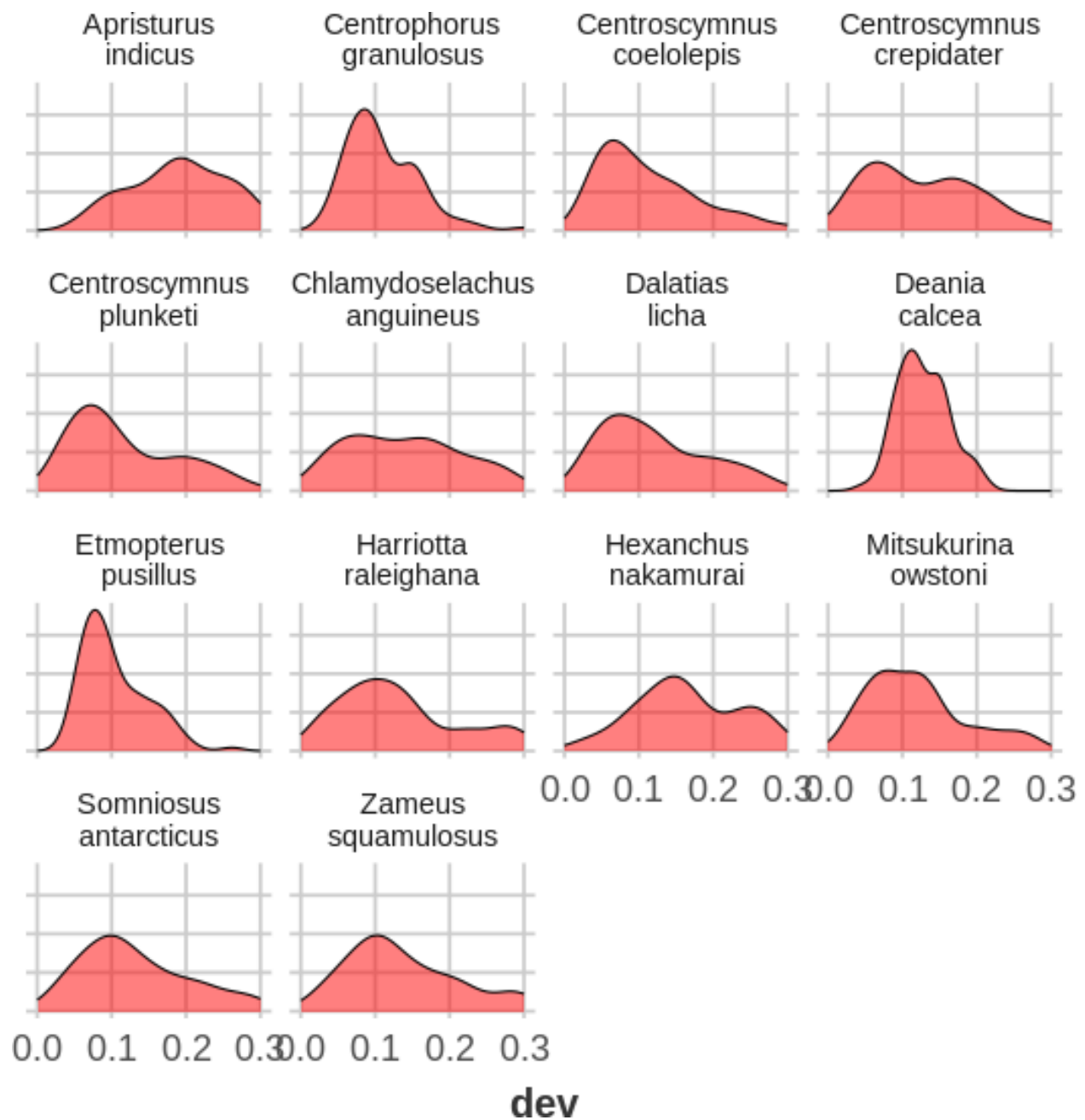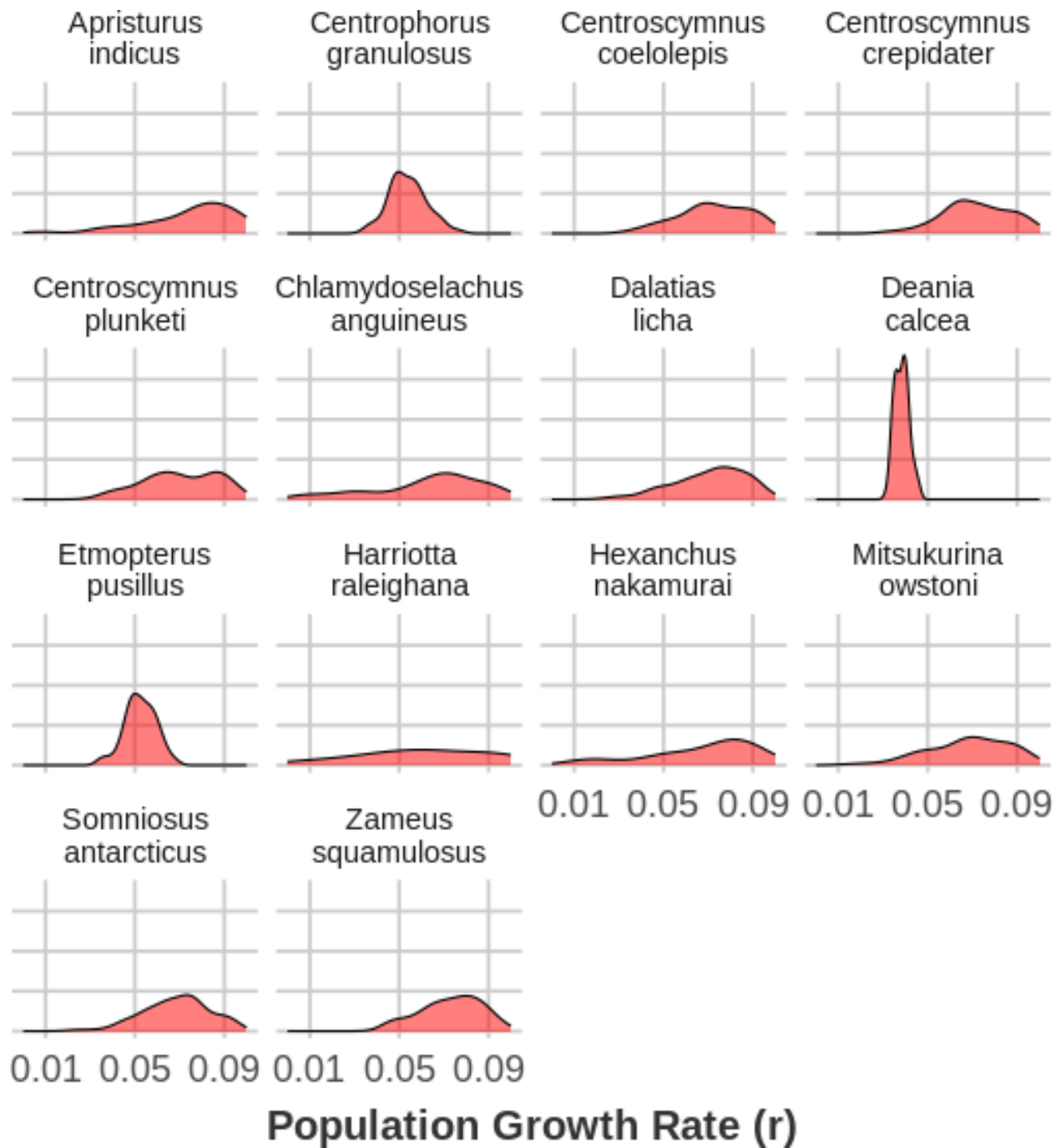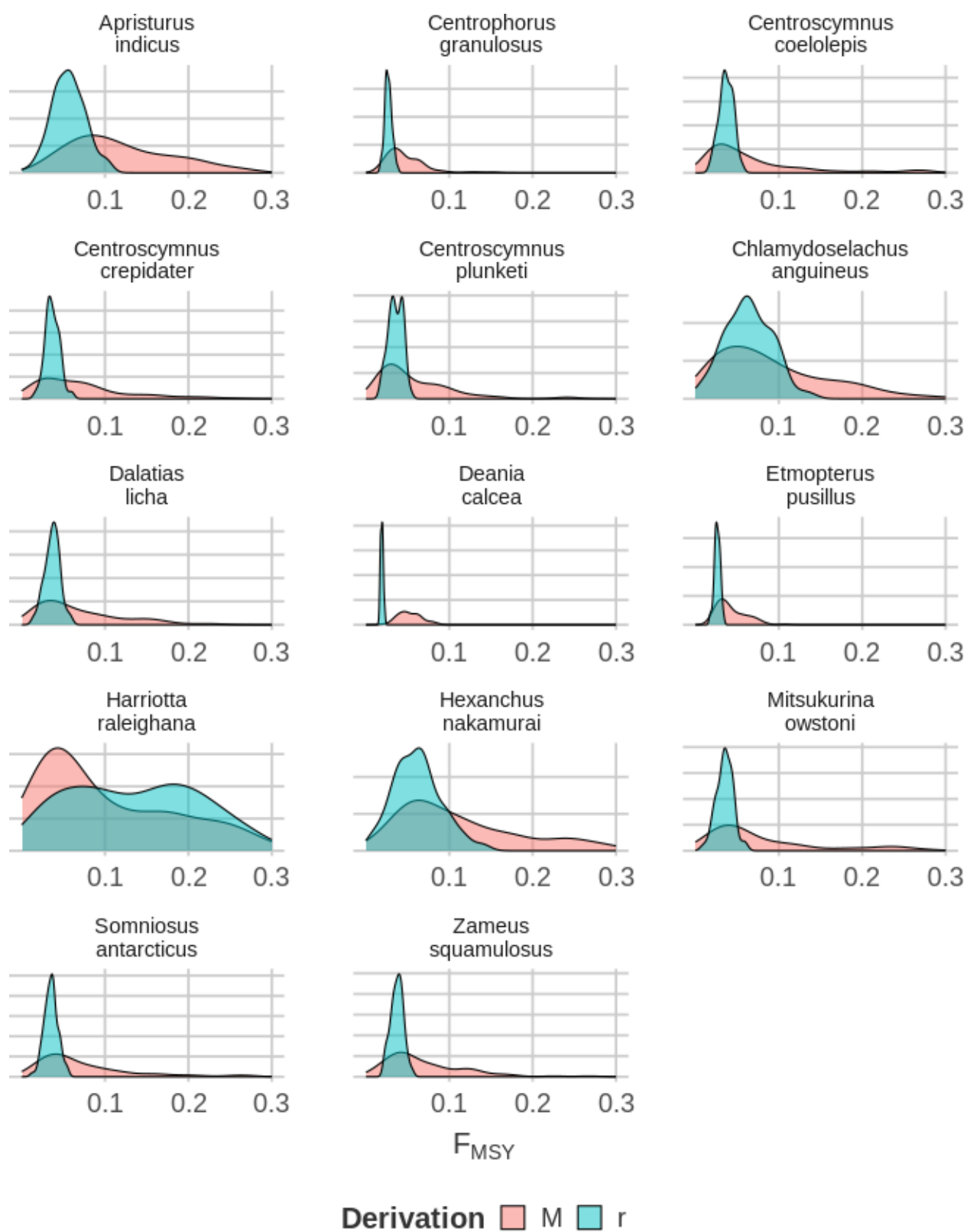
```
[6,] "logitbound_h" "ln_r"

      [,1]             [,2]
[1,] "K"              "M"
[2,] "Winfinity"      "Loo"
[3,] "tmax"           "tm"
[4,] "Lm"             "Temperature"
[5,] "ln_margsd"      "rho"
[6,] "logitbound_h"   "ln_r"
```
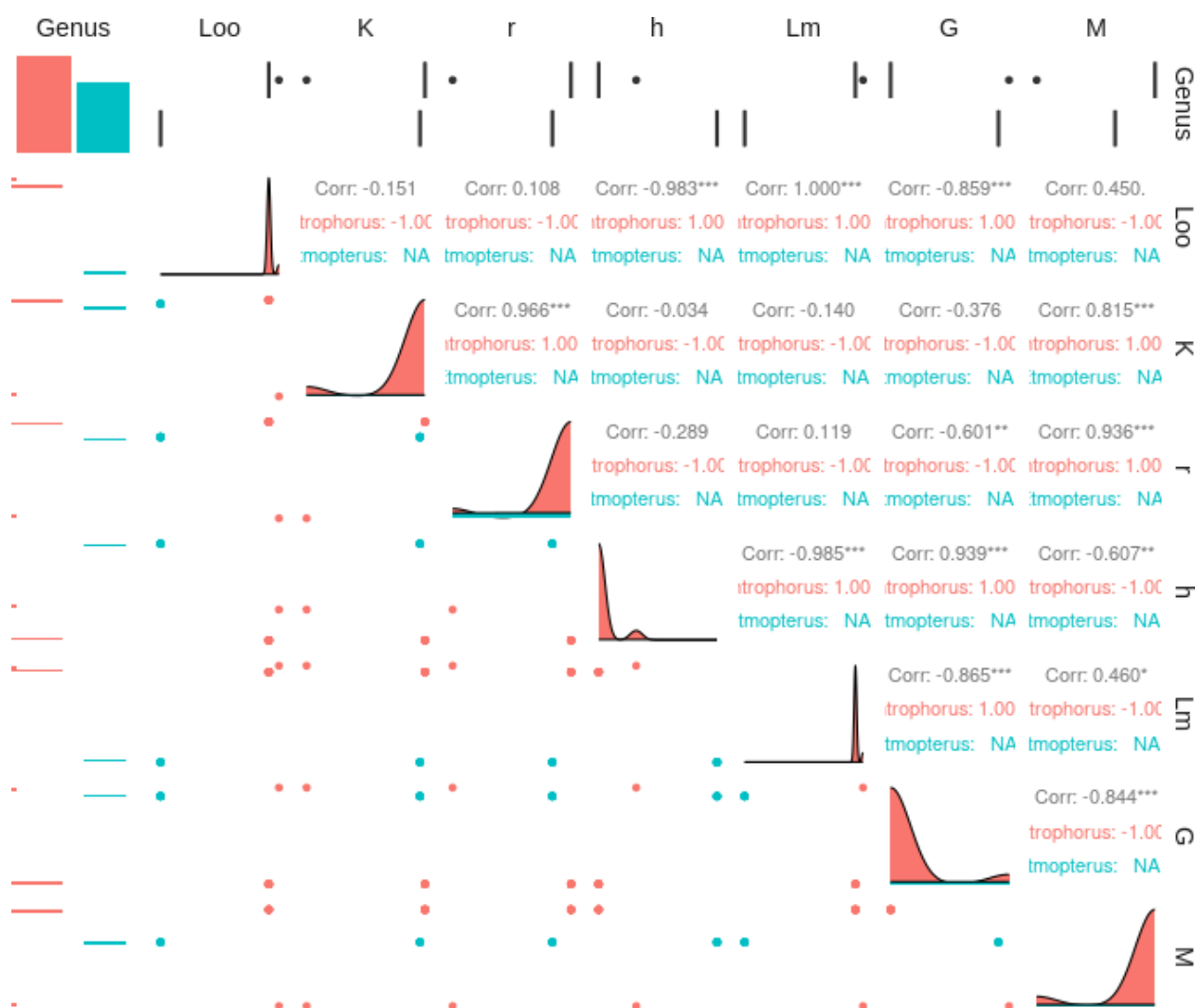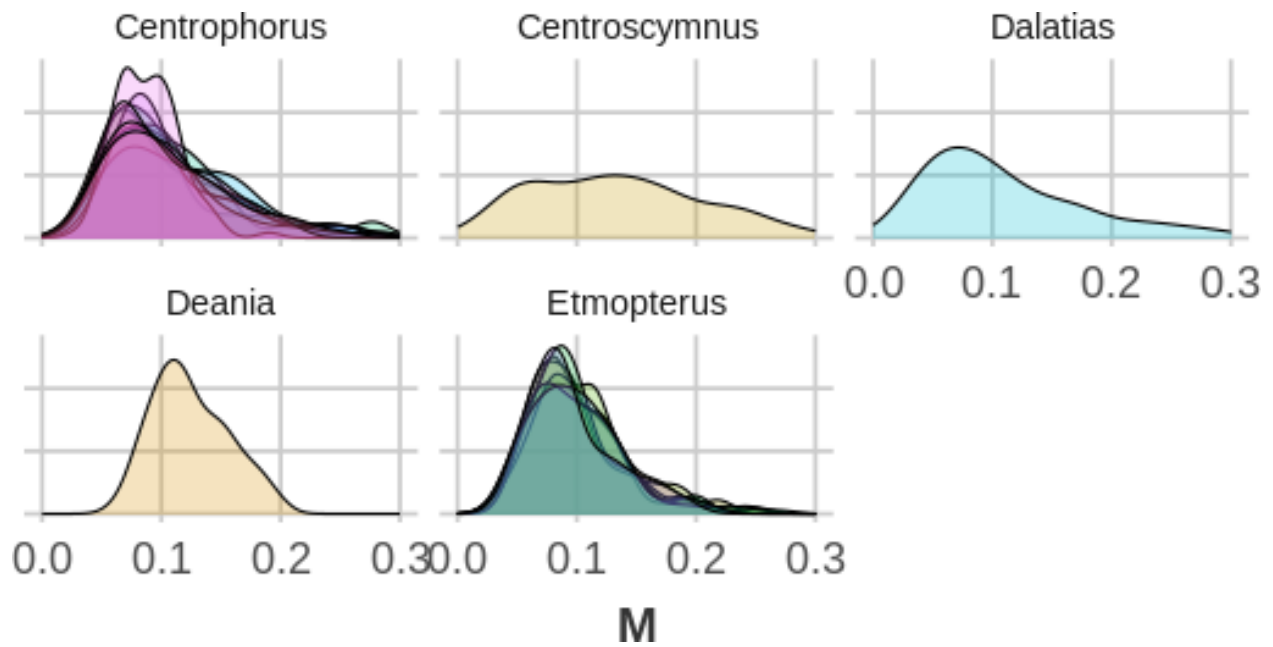
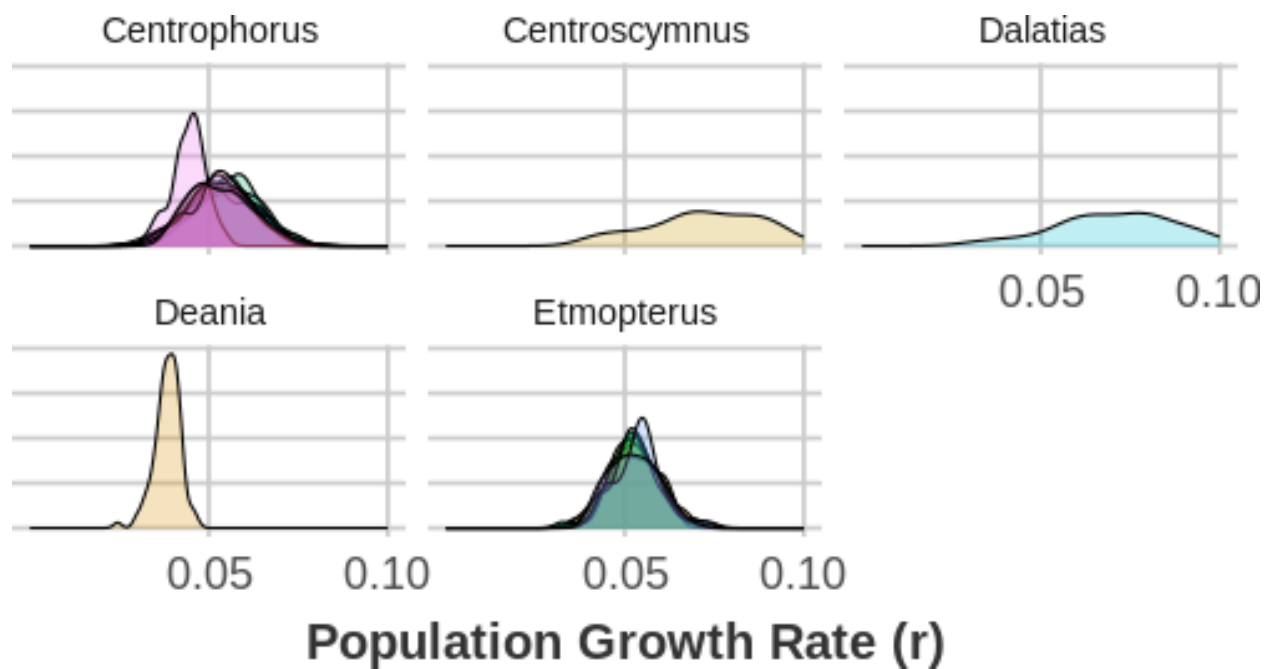**Figure 1** Estimates of population growth r based on life-history theory

Figure 2 Estimates of F_{MSY} based on life-history theory
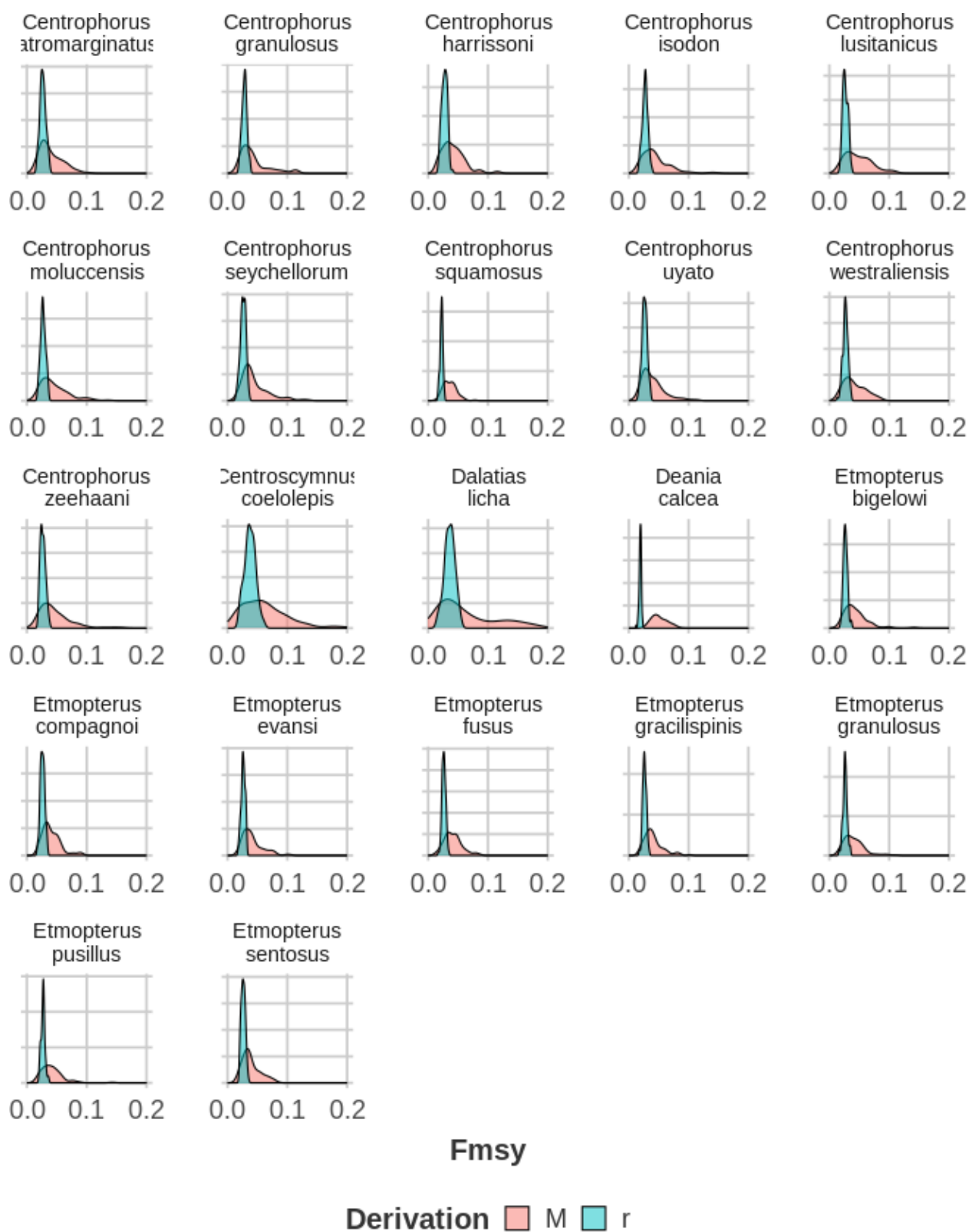
MRAG

Figure 3 Estimates of natural mortality based on life-history theory

Figure 4 Estimates of population growth r based on life-history theory

Figure 5 Estimates of F_{MSY} based on life-history theory