Alligator food

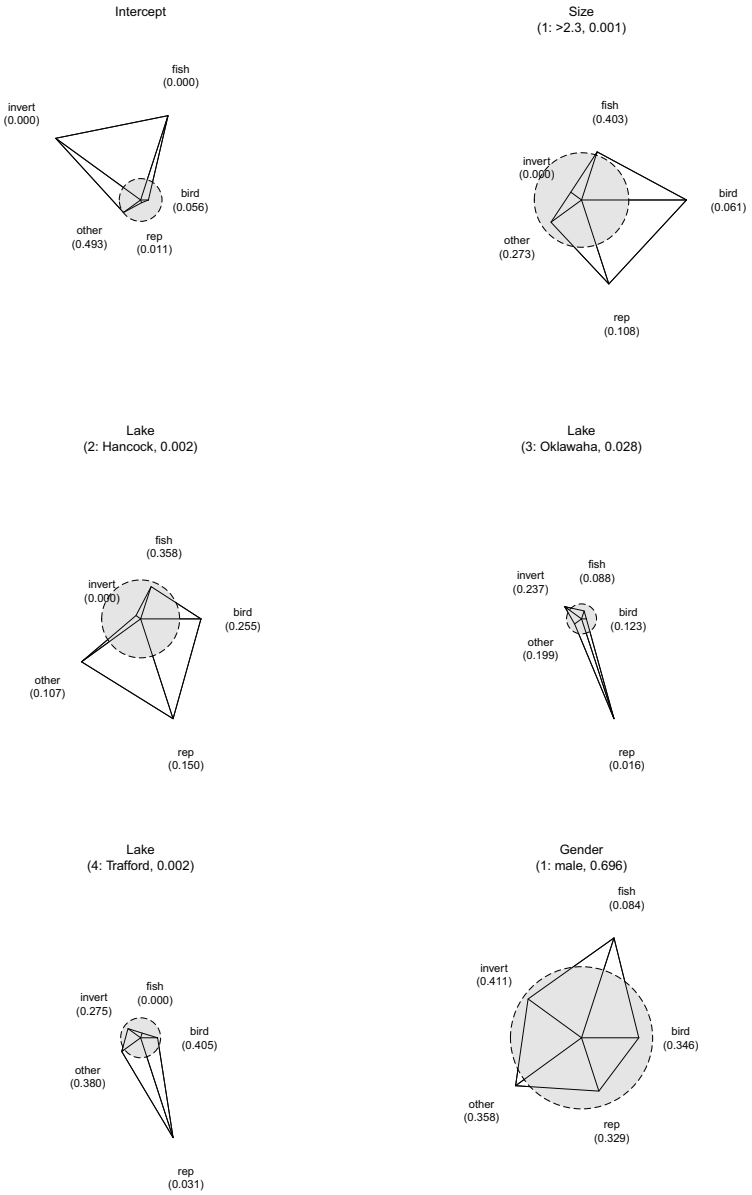
May 23, 2012

```
> library(EffectStars)
> data(alligator)
```

Effect Stars for multinomial logit model for alligator data.

```
> star.nominal(Food ~ Size + Lake + Gender, alligator, cex.cat = 1, cex.labels
+ = 1.2, lwd.circle = 1.5)

$odds
       (Intercept)  Size>2.3 LakeHancock LakeOklawaha LakeTrafford Gendermale
bird     0.3641677 2.2214343   1.5482243    0.3216860    0.8476108  0.8053126
fish     4.1452857 1.0702729   0.8709613    0.5577586    0.2460245  1.4768389
invert   4.9086340 0.2812961   0.1468021    1.3900682    0.7815296  0.9295460
other    0.9912782 0.8003797   1.8746415    0.5724835    1.1681700  1.1472118
rep      0.1361407 1.8681519   2.6947399    7.0036183    5.2525924  0.7884749

$coefficients
        (Intercept)   Size>2.3 LakeHancock LakeOklawaha LakeTrafford
bird   -1.010140681  0.7981531   0.4371086   -1.1341792   -0.1653337
fish    1.421971710  0.0679137  -0.1381577   -0.5838291   -1.4023241
invert  1.590995701 -1.2683473  -1.9186701    0.3293528   -0.2465023
other  -0.008760051 -0.2226691   0.6284174   -0.5577714    0.1554384
rep    -1.994066679  0.6249496   0.9913017    1.9464269    1.6587217
        Gendermale
bird   -0.21652472
fish    0.38990392
invert -0.07305897
other   0.13733444
rep    -0.23765467

$se
       (Intercept)  Size>2.3 LakeHancock LakeOklawaha LakeTrafford Gendermale
bird     0.6340256 0.5174911   0.6640651    0.9775520    0.6904218  0.5470563
fish     0.3412751 0.2751326   0.3784313    0.4316856    0.4010549  0.2832367
invert   0.3646410 0.3344380   0.5444955    0.4600936    0.4123390  0.3250211
other    0.4682316 0.3682000   0.5055102    0.6611601    0.5079579  0.3785243
rep      0.8652854 0.5046065   0.9549066    0.9100412    0.8878203  0.5369554

$pvalues
        (Intercept)     Size>2.3  LakeHancock LakeOklawaha LakeTrafford
```

```
bird   5.555569e-02 6.149411e-02 0.2551946657   0.12297882 0.4053714525
fish   1.545588e-05 4.025161e-01 0.3575258179   0.08811723 0.0002356238
invert 6.409150e-06 7.457695e-05 0.0002127366   0.23704549 0.2749817956
other  4.925367e-01 2.726725e-01 0.1069090405   0.19943940 0.3797998492
rep    1.059676e-02 1.077674e-01 0.1496085434   0.01622456 0.0308595741
       Gendermale
bird    0.3461264
fish    0.0843178
invert  0.4110743
other   0.3583714
rep     0.3290287

$p_rel
        Size>2.3 LakeHancock LakeOklawaha LakeTrafford Gendermale
[1,] 0.001476994   0.0018376   0.02827814  0.002265663  0.6963208

$xlim
[1] 18.20941 70.03618

$ylim
[1] 17.43901 97.84055
```

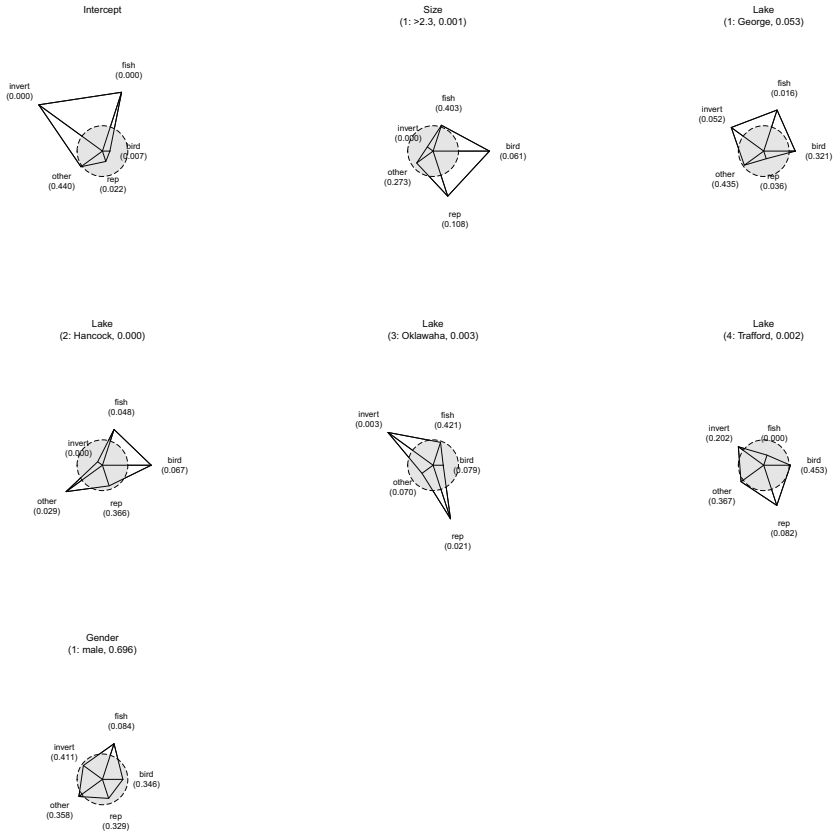


Effect Stars for multinomial logit model for alligator data with unscaled stars and with effect coding for categorical predictors.

```
> star.nominal(Food ~ Size + Lake + Gender, alligator, cex.cat = 1, cex.labels
+ = 1.2, lwd.circle = 1.5, scale = FALSE, pred.coding = "effect")

$odds
       Intercept  Size>2.3 LakeGeorge LakeHancock LakeOklawaha LakeTrafford
```

```
bird   0.2935399 2.2214343  1.2406074   1.9207385    0.3990861    1.0515522
fish   2.4373076 1.0702729  1.7007643   1.4812999    0.9486159    0.4184297
invert 3.1019806 0.2812961  1.5824193   0.2323024    2.1996707    1.2367075
other  1.0489200 0.8003797  0.9450465   1.7716235    0.5410235    1.1039750
rep    0.4295771 1.8681519  0.3169179   0.8540113    2.2195719    1.6646405
       Gendermale
bird    0.8053126
fish    1.4768389
invert  0.9295460
other   1.1472118
rep     0.7884749

$coefficients
         Intercept   Size>2.3  LakeGeorge LakeHancock LakeOklawaha LakeTrafford
bird   -1.22574176  0.7981531  0.21560108   0.6527097  -0.91857815   0.05026734
fish    0.89089398  0.0679137  0.53107773   0.3929200  -0.05275135  -0.87124641
invert  1.13204082 -1.2683473  0.45895488  -1.4597152   0.78830769   0.21245260
other   0.04776106 -0.2226691 -0.05652111   0.5718963  -0.61429253   0.09891731
rep    -0.84495409  0.6249496 -1.14911259  -0.1578109   0.79731433   0.50960916
        Gendermale
bird   -0.21652472
fish    0.38990392
invert -0.07305897
other   0.13733444
rep    -0.23765467

$se
       Intercept  Size>2.3 LakeGeorge LakeHancock LakeOklawaha LakeTrafford
bird   0.5001524 0.5174911  0.4639377   0.4362643    0.6500394    0.4291896
fish   0.2480824 0.2751326  0.2471014   0.2354723    0.2662852    0.2423991
invert 0.2482183 0.3344380  0.2816095   0.3634161    0.2913128    0.2544228
other  0.3168324 0.3682000  0.3468302   0.3015682    0.4162737    0.2915672
rep    0.4203373 0.5046065  0.6369569   0.4599019    0.3917484    0.3670143
       Gendermale
bird    0.5470563
fish    0.2832367
invert  0.3250211
other   0.3785243
rep     0.5369554

$pvalues
          Intercept     Size>2.3 LakeGeorge  LakeHancock LakeOklawaha
bird   7.128215e-03 6.149411e-02 0.32106604 6.730942e-02  0.078811466
fish   1.646289e-04 4.025161e-01 0.01580807 4.759373e-02  0.421483036
invert 2.549584e-06 7.457695e-05 0.05157648 2.951568e-05  0.003404416
other  4.400882e-01 2.726725e-01 0.43527307 2.895305e-02  0.070013068
rep    2.220601e-02 1.077674e-01 0.03561044 3.657464e-01  0.020911790
       LakeTrafford Gendermale
bird   0.4533818779  0.3461264
fish   0.0001626549  0.0843178
```

```
invert 0.2018482699  0.4110743
other  0.3672066618  0.3583714
rep    0.0824883717  0.3290287

$p_rel
        Size>2.3 LakeGeorge  LakeHancock LakeOklawaha LakeTrafford Gendermale
[1,] 0.001476994 0.05318769 3.182925e-06   0.00305557  0.002137586  0.6963208

$xlim
[1]  8.06515 44.04812

$ylim
[1]  7.723932 43.334669
```



Effect Stars for multinomial logit model for alligator data without intercept.

```
> star.nominal(Food ~ Size + Lake + Gender, alligator, cex.cat = 1, cex.labels
+ = 1.2, lwd.circle = 1.5, select = 2:6, col.circle = "blue")
```

```
$odds
       (Intercept)  Size>2.3 LakeHancock LakeOklawaha LakeTrafford Gendermale
bird     0.3641677 2.2214343   1.5482243    0.3216860    0.8476108  0.8053126
fish     4.1452857 1.0702729   0.8709613    0.5577586    0.2460245  1.4768389
invert   4.9086340 0.2812961   0.1468021    1.3900682    0.7815296  0.9295460
other    0.9912782 0.8003797   1.8746415    0.5724835    1.1681700  1.1472118
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        (Intercept)   Size>2.3 LakeHancock LakeOklawaha LakeTrafford
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fish    1.421971710  0.0679137  -0.1381577   -0.5838291   -1.4023241
invert  1.590995701 -1.2683473  -1.9186701    0.3293528   -0.2465023
other  -0.008760051 -0.2226691   0.6284174   -0.5577714    0.1554384
rep    -1.994066679  0.6249496   0.9913017    1.9464269    1.6587217
        Gendermale
bird   -0.21652472
fish    0.38990392
invert -0.07305897
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$se
       (Intercept)  Size>2.3 LakeHancock LakeOklawaha LakeTrafford Gendermale
bird     0.6340256 0.5174911   0.6640651    0.9775520    0.6904218  0.5470563
fish     0.3412751 0.2751326   0.3784313    0.4316856    0.4010549  0.2832367
invert   0.3646410 0.3344380   0.5444955    0.4600936    0.4123390  0.3250211
other    0.4682316 0.3682000   0.5055102    0.6611601    0.5079579  0.3785243
rep      0.8652854 0.5046065   0.9549066    0.9100412    0.8878203  0.5369554

$pvalues
        (Intercept)     Size>2.3  LakeHancock LakeOklawaha LakeTrafford
bird   5.555569e-02 6.149411e-02 0.2551946657   0.12297882 0.4053714525
fish   1.545588e-05 4.025161e-01 0.3575258179   0.08811723 0.0002356238
invert 6.409150e-06 7.457695e-05 0.0002127366   0.23704549 0.2749817956
other  4.925367e-01 2.726725e-01 0.1069090405   0.19943940 0.3797998492
rep    1.059676e-02 1.077674e-01 0.1496085434   0.01622456 0.0308595741
       Gendermale
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fish    0.0843178
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other   0.3583714
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$xlim
[1] 18.20941 70.03618
```

```
$ylim
[1] 17.43901 97.84055
```