Alligator food

November 22, 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    1.111114e-01 0.1229882199 0.5103893315    0.24595764 0.8107429050
fish    3.091176e-05 0.8050321427 0.7150516358    0.17623445 0.0004712477
invert  1.281830e-05 0.0001491539 0.0004254732    0.47409097 0.5499635912
other   9.850734e-01 0.5453449118 0.2138180810    0.39887879 0.7595996984
rep     2.119353e-02 0.2155347911 0.2992170868    0.03244912 0.0617191482
        Gendermale
bird    0.6922528
fish    0.1686356
invert  0.8221487
other   0.7167428
rep     0.6580575


$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    1.425643e-02 0.1229882199 0.64213208 1.346188e-01  0.157622931
fish    3.292578e-04 0.8050321427 0.03161615 9.518746e-02  0.842966072
invert  5.099169e-06 0.0001491539 0.10315297 5.903137e-05  0.006808831
other   8.801765e-01 0.5453449118 0.87054614 5.790610e-02  0.140026137
rep     4.441202e-02 0.2155347911 0.07122087 7.314928e-01  0.041823579
        LakeTrafford Gendermale
bird    0.9067637559  0.6922528
fish    0.0003253099  0.1686356
```

```
invert 0.4036965398  0.8221487
other  0.7344133236  0.7167428
rep    0.1649767434  0.6580575

$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
```
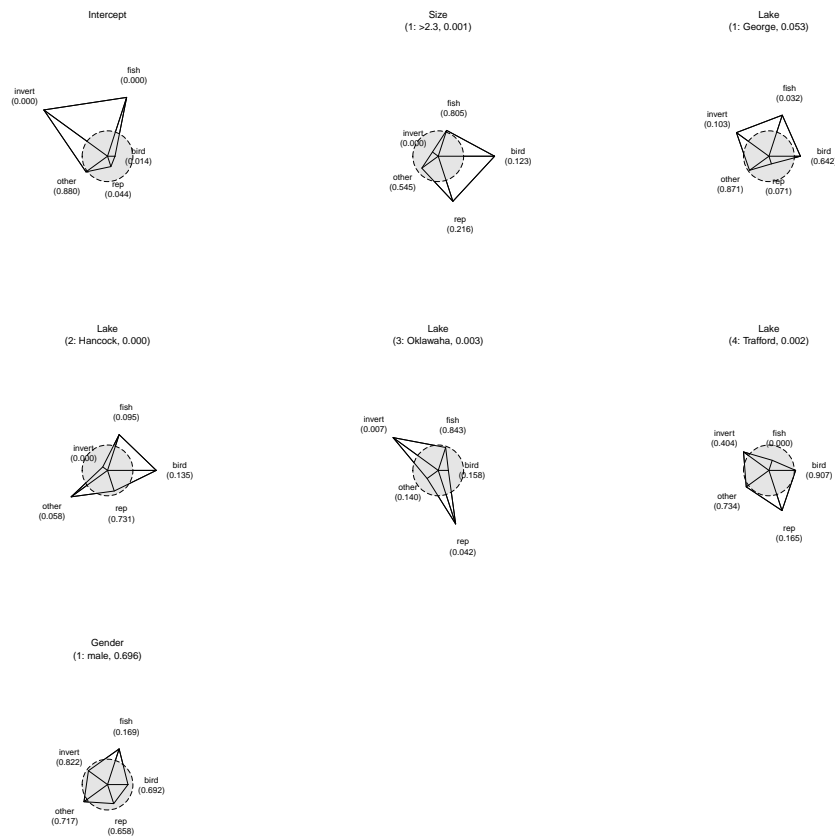

Effect Stars for multinomial logit model for alligator data without intercept.

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

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    1.111114e-01 0.1229882199 0.5103893315   0.24595764 0.8107429050
fish    3.091176e-05 0.8050321427 0.7150516358   0.17623445 0.0004712477
invert  1.281830e-05 0.0001491539 0.0004254732   0.47409097 0.5499635912
other   9.850734e-01 0.5453449118 0.2138180810   0.39887879 0.7595996984
rep     2.119353e-02 0.2155347911 0.2992170868   0.03244912 0.0617191482
        Gendermale
bird     0.6922528
fish     0.1686356
invert   0.8221487
other    0.7167428
rep      0.6580575


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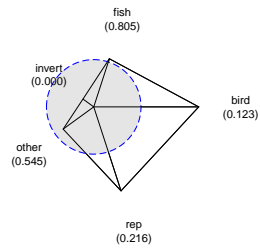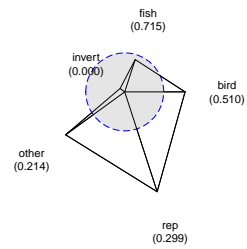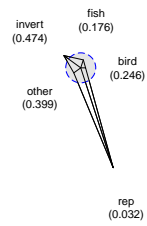
```
$ylim
[1] 17.43901 97.84055
```

Size
(1: >2.3, 0.001)
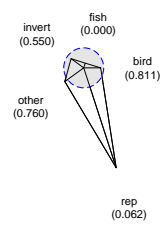

fish
(0.805)

invert
(0.000)

bird
(0.123)

other
(0.545)

rep
(0.216)

Lake
(2: Hancock, 0.002)

fish
(0.715)

invert
(0.000)

bird
(0.510)

other
(0.214)

rep
(0.299)

Lake
(3: Oklawaha, 0.028)

invert
(0.474)

fish
(0.176)

bird
(0.246)

other
(0.399)

rep
(0.032)

Lake
(4: Trafford, 0.002)

invert
(0.550)

fish
(0.000)

bird
(0.811)

other
(0.760)

rep
(0.062)

Gender
(1: male, 0.696)

fish
(0.169)

invert
(0.822)

bird
(0.692)

other
(0.717)

rep
(0.658)