

The diet of a forest-dependent frog species, *Odorrana morafkai* (Anura: Ranidae), in relation to habitat disturbance

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Supplementary material

Table S1. Results of an analysis of variance (ANOVA) examining the impact season, sex and habitat disturbance on the body condition (calculated as Weight (g)/SVL (mm)) of *Odorrana morafkai*.

| Variable | Source | Mean | | | |
|-------------------|------------------------------------|-----------|--------|----------|------------------|
| | | <i>df</i> | Square | <i>F</i> | <i>P</i> |
| | Season | 1 | <0.001 | 0.009 | 0.924 |
| | Habitat disturbance | 1 | 0.182 | 5.246 | 0.023 |
| | Sex | 1 | 24.286 | 701.229 | <0.001 |
| Body condition | Season * Habitat disturbance | 1 | 0.008 | 0.217 | 0.642 |
| | Season * Sex | 1 | 0.013 | 0.375 | 0.541 |
| | Habitat disturbance* Sex | 1 | 0.029 | 0.831 | 0.363 |
| | Season * Habitat disturbance * Sex | 1 | <0.001 | 0.004 | 0.949 |
| | Error | 247 | 0.035 | | |

Table S2. Diet composition of *Odorrana morafkai* and prey availability in the environment in the dry and rainy seasons. n: numbers of prey items.

| Prey taxa | Dry season | | | | Rainy season | | | |
|------------------------------|------------|------|-------------|------|--------------|------|-------------|------|
| | Diet | | Environment | | Diet | | Environment | |
| | n | % | n | % | n | % | n | % |
| Acarina | 1 | <0.1 | 7 | <0.1 | 6 | <0.1 | 26 | <0.1 |
| Araneae | 9 | 0.1 | 180 | 0.1 | 74 | 0.1 | 150 | 0.1 |
| Blattodea | 1 | <0.1 | 7 | <0.1 | 20 | <0.1 | 14 | <0.1 |
| Chilopoda | 4 | <0.1 | 0 | 0.0 | 13 | <0.1 | 0 | 0.0 |
| Coleoptera | 9 | 0.1 | 328 | 0.1 | 101 | 0.2 | 457 | 0.3 |
| Collembola | 0 | 0.0 | 48 | <0.1 | 6 | <0.1 | 15 | <0.1 |
| Decapoda | 4 | <0.1 | 0 | 0.0 | 21 | <0.1 | 0 | 0.0 |
| Dermaptera | 4 | <0.1 | 9 | <0.1 | 9 | <0.1 | 24 | <0.1 |
| Diplopoda | 2 | <0.1 | 2 | <0.1 | 10 | <0.1 | 12 | <0.1 |
| Diptera | 6 | 0.1 | 804 | 0.3 | 19 | <0.1 | 38 | <0.1 |
| Ephemeroptera | 0 | 0.0 | 22 | <0.1 | 6 | <0.1 | 14 | <0.1 |
| Formicidae | 0 | 0.0 | 499 | 0.2 | 24 | <0.1 | 250 | 0.1 |
| Gastropoda | 4 | <0.1 | 2 | <0.1 | 12 | <0.1 | 0 | 0.0 |
| Hemiptera | 15 | 0.1 | 117 | <0.1 | 21 | <0.1 | 24 | <0.1 |
| Hymenoptera (non-Formicidae) | 3 | <0.1 | 124 | <0.1 | 23 | <0.1 | 85 | <0.1 |
| Isopoda | 2 | <0.1 | 2 | <0.1 | 10 | <0.1 | 53 | <0.1 |
| Isoptera | 0 | 0.0 | 2 | <0.1 | 0 | 0.0 | 4 | <0.1 |
| Lepidoptera | 18 | 0.2 | 328 | 0.1 | 44 | 0.1 | 10 | <0.1 |
| Mantodae | 1 | <0.1 | 0 | 0.0 | 5 | <0.1 | 0 | 0.0 |
| Megaloptera | 0 | 0.0 | 4 | <0.1 | 0 | 0.0 | 1 | <0.1 |
| Odonata | 0 | 0.0 | 0 | 0.0 | 7 | <0.1 | 0 | 0.0 |
| Opiliones | 22 | 0.2 | 21 | <0.1 | 16 | <0.1 | 150 | 0.1 |
| Orthoptera | 5 | <0.1 | 340 | 0.1 | 61 | 0.1 | 335 | 0.2 |
| Phasmatodae | 1 | <0.1 | 0 | 0.0 | 7 | <0.1 | 0 | 0.0 |
| Plecoptera | 2 | <0.1 | 7 | <0.1 | 11 | <0.1 | 7 | <0.1 |
| Pseudoscorpionida | 0 | 0.0 | 0 | 0.0 | 4 | <0.1 | 22 | <0.1 |
| Squamata | 0 | 0.0 | 0 | 0.0 | 1 | <0.1 | 0 | 0.0 |
| Thysanoptera | 0 | 0.0 | 0 | 0.0 | 2 | <0.1 | 0 | 0.0 |
| Trichoptera | 0 | 0.0 | 6 | <0.1 | 8 | <0.1 | 28 | <0.1 |

Table S3. Diet composition of *Odorrana morafkai* and prey availability in non-disturbed sites and disturbed sites. n: numbers of prey items.

| Prey taxa | Disturbed sites | | | | Non-disturbed sites | | | |
|------------------------------|-----------------|------|-------------|-------|---------------------|------|-------------|------|
| | Diet | | Environment | | Diet | | Environment | |
| | n | % | n | % | n | % | n | % |
| Acarina | 5 | <0.1 | 26 | <0.1 | 2 | <0.1 | 6 | <0.1 |
| Araneae | 40 | 0.1 | 171 | 0.1 | 40 | 0.1 | 157 | 0.1 |
| Blattodea | 10 | <0.1 | 14 | <0.1 | 12 | <0.1 | 5 | <0.1 |
| Chilopoda | 10 | <0.1 | 0 | 0.0 | 7 | <0.1 | 0 | 0.0 |
| Coleoptera | 58 | 0.2 | 503 | 0.2 | 51 | 0.2 | 280 | 0.1 |
| Collembola | 1 | <0.1 | 49 | <0.1 | 2 | <0.1 | 11 | <0.1 |
| Decapoda | 21 | 0.1 | 0 | 0.0 | 8 | <0.1 | 0 | 0.0 |
| Dermaptera | 7 | <0.1 | 7 | <0.01 | 8 | <0.1 | 25 | <0.1 |
| Diplopoda | 9 | <0.1 | 9 | <0.01 | 4 | <0.1 | 5 | <0.1 |
| Diptera | 18 | 0.1 | 520 | 0.2 | 9 | <0.1 | 326 | 0.1 |
| Ephemeroptera | 2 | <0.1 | 25 | <0.1 | 4 | <0.1 | 8 | <0.1 |
| Formicidae | 6 | <0.1 | 75 | <0.1 | 19 | 0.1 | 662 | 0.3 |
| Gastropoda | 9 | <0.1 | 0 | 0.0 | 6 | <0.1 | 3 | <0.1 |
| Hemiptera | 18 | 0.1 | 61 | <0.1 | 20 | 0.1 | 78 | <0.1 |
| Hymenoptera (non-Formicidae) | 12 | <0.1 | 182 | 0.1 | 10 | <0.1 | 25 | <0.1 |
| Isopoda | 5 | <0.1 | 37 | <0.1 | 6 | <0.1 | 17 | <0.1 |
| Isoptera | 0 | 0.0 | 5 | <0.1 | 0 | 0.0 | 0 | 0.0 |
| Lepidoptera | 33 | 0.1 | 300 | 0.1 | 30 | 0.1 | 34 | <0.1 |
| Mantidae | 2 | <0.1 | 0 | 0.0 | 3 | <0.1 | 0 | 0.0 |
| Odonata | 5 | <0.1 | 0 | 0.0 | 2 | <0.1 | 0 | 0.0 |
| Megaloptera | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 4 | <0.1 |
| Opiliones | 18 | 0.1 | 157 | 0.1 | 23 | 0.1 | 12 | <0.1 |
| Orthoptera | 35 | 0.1 | 205 | 0.1 | 30 | 0.1 | 461 | 0.2 |
| Phasmatidae | 5 | <0.1 | 0 | 0.0 | 3 | <0.1 | 0 | 0.0 |
| Plecoptera | 7 | <0.1 | 3 | <0.1 | 3 | <0.1 | 4 | <0.1 |
| Pseudoscorpionida | 1 | <0.1 | 9 | <0.1 | 3 | <0.1 | 9 | <0.1 |
| Squamata | 1 | <0.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Thysanoptera | 1 | <0.1 | 0 | 0.0 | 1 | <0.1 | 0 | 0.0 |
| Trichoptera | 7 | <0.1 | 2 | <0.1 | 2 | <0.1 | 86 | <0.1 |

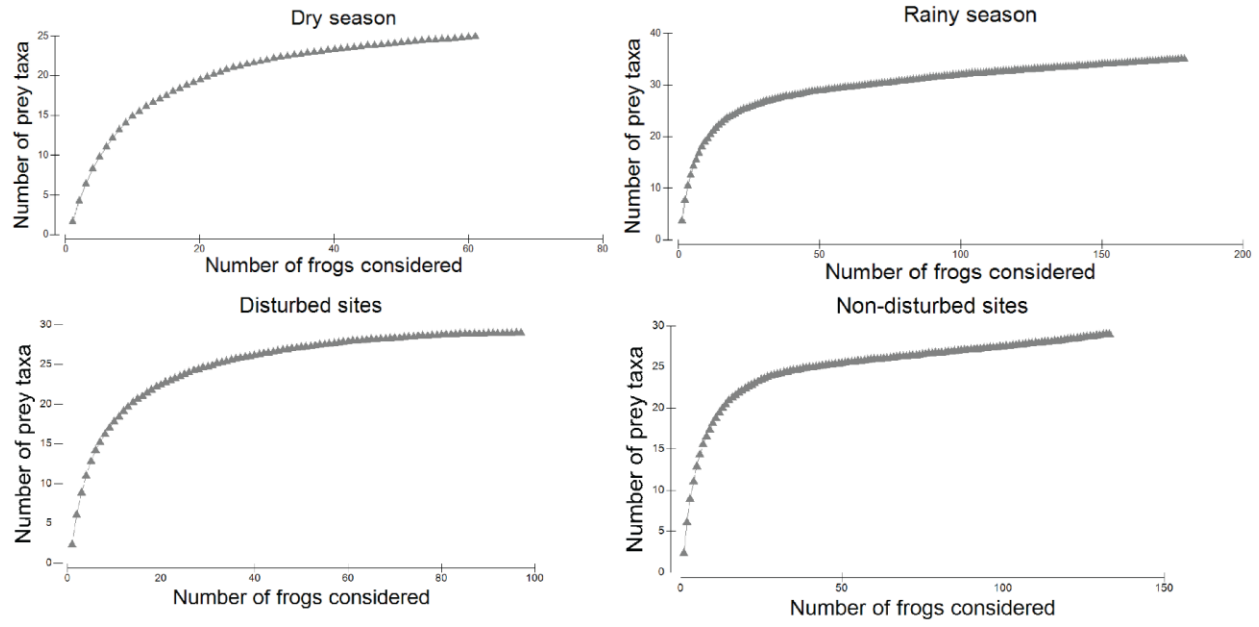


Figure S1. Cumulative number of prey taxa detected in *Odorrana morafkai* stomachs with an increasing sample size.