

Table S1. Summary statistics for rainbow trout stomach contents from three habitats in Chungará catchment. Data are provided as mean percent frequency of occurrence (%Fi, which represents the proportion of total stomachs that contained a given type of prey) and contribution (%Pi, which represents the proportion contribution of each food item) by study area.

| Habitat | Lake | | River mouth | | River | |
|-------------------------------------|------------|------------|-------------|------------|------------|------------|
| n | 37 | | 18 | | 91 | |
| Size range (mm) | 270 – 770 | | 136 – 395 | | 60 - 210 | |
| n empty stomachs | 0 | | 0 | | 0 | |
| Taxon | %Fi | %Pi | %Fi | %Pi | %Fi | %Pi |
| Amphipoda (<i>Hyallolella</i> sp.) | 100 | 90 | 89 | 18 | 80 | 29 |
| <i>Orestias chungarensis</i> | 24 | 7 | 11 | 3 | – | – |
| Hemiptera (Corixidae) | 16 | 2 | 94 | 35 | 2 | < 1 |
| Coleoptera (Dytiscidae) | 3 | < 1 | – | – | – | – |
| Diptera larvae (Syrphidae) | 3 | < 1 | – | – | – | – |
| Ostracods | 3 | < 1 | – | – | – | – |
| Chironomidae (pupae and larvae) | 8 | < 1 | 52 | 27 | 25 | 5 |
| Elmidae (larvae and adult) | – | – | 11 | 1 | 47 | 10 |
| Fish (digested) | – | – | 19 | 4 | – | – |
| Unidentified invertebrate eggs | – | – | 6 | < 1 | – | – |
| Plecoptera larvae | – | – | 32 | 2 | 85 | 45 |
| Non-fish digested material | – | – | 28 | 4 | 11 | 3 |
| Zooplankton | – | – | 11 | 0.4 | – | – |
| Diptera (Empididae) | – | – | 28 | 2 | 19 | 2 |
| Trichoptera | – | – | – | – | 40 | 3 |
| Ephemeroptera | – | – | – | – | 5 | 1 |
| Diptera (other) | – | – | 11 | 1 | 8 | 2 |
| Unidentified invertebrates | – | – | 17 | 1 | – | – |

Table S2. Summary statistics (median (95 % credibility limits)) for the estimated percent contribution of different putative prey to the assimilated diet of rainbow trout short (liver) and long-time (muscle) in different habitats. An em-dash indicates that a particular prey type was not included in the analysis.

| Habitat | Lake | | River mouth | | River | |
|------------------------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| | Liver | Muscle | Liver | Muscle | Liver | Muscle |
| Amphipoda | 3 (0.7 – 10) | 7 (2 – 16) | 10 (1 – 40) | 33 (9 – 54) | 33 (25 – 41) | 7 (2 – 14) |
| Aquatic insects | 23 (11 – 36) | 38 (26 – 51) | 46 (9 – 79) | 31 (11 – 57) | 67 (59 – 75) | 93 (86 – 98) |
| <i>Orestias</i> A | 34 (26 – 42) | 12 (4 – 21) | — | — | — | — |
| <i>Orestias</i> B | 12 (3 – 22) | 10 (2 – 18) | — | — | — | — |
| <i>Orestias chungarensis</i> | — | — | 22 (9 – 35) | 24 (12 – 36) | — | — |
| Zooplankton | 27 (19 – 35) | 33 (26 – 40) | 16 (2 – 60) | 10 (2 – 28) | — | — |