

Supplementary Information

Invertebrate drift densities in the Njoro and Kamweti Rivers in the Kenyan highlands that differ in the level of anthropogenic disturbances

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Figure S1: The reach sampled at the Kamweti River. The blue arrow shows the direction of water flow.

Table S1: Sampling dates at the Njoro and Kamweti Rivers

| River | Sampling months | |
|---------|----------------------|--|
| | February | March |
| Njoro | 27/2/2016; 28/2/2016 | 6/3/2016; 28/3/2016 |
| Kamweti | | 1/3/2016; 2/3/2016; 8/3/2016; 15/3/2016; 29/3/2016 |

Table S2: Mean (\pm SE) densities (individuals m^{-3}) of drifting invertebrates at the Kamweti River during day and night time (minutes) intervals

| Family | Kamweti River | | | | | | | | | |
|----------------------|---------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| | Day | | | | | Night | | | | |
| | Time (min) | 5 | 10 | 15 | 20 | 25 | 5 | 10 | 15 | 20 |
| Chironomidae | 1.3 (0.6) | 0.5 (0.2) | 0.6 (0.2) | 0.6 (0.2) | 0.4 (0.2) | 0.7 (0.3) | 0.3 (0.1) | 0.5 (0.2) | 0.3 (0.1) | 0.2 (0.1) |
| Baetidae | 10.1 (1.8) | 5.1 (1.1) | 4.4 (1.0) | 2.8 (0.4) | 2.9 (0.5) | 16.8 (5.0) | 11.2 (4.6) | 4.1 (1.4) | 3.5 (0.9) | 3.6 (0.9) |
| Simuliidae | 0 (0) | 0.04 (0.02) | 0 (0) | 0.01 (0.01) | 0.07 (0.06) | 0.08 (0.07) | 0.03 (0.02) | 0 (0) | 0.01 (0.01) | 0.03 (0.02) |
| Caenidae | 0 (0) | 0 (0) | 0.01 (0.01) | 0.03 (0.02) | 0.01 (0.01) | 0 (0) | 0.04 (0.03) | 0 (0) | 0.03 (0.02) | 0 (0) |
| Elmidae | 0.4 (0.1) | 0.2 (0.1) | 0.1 (0.03) | 0.2 (0.09) | 0.08 (0.02) | 0.07 (0.06) | 0.21 (0.07) | 0.1 (0.08) | 0.4 (0.2) | 0.1 (0.05) |
| Culicidae | 0.04 (0.04) | 0.02 (0.01) | 0.02 (0.01) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.1 (0.07) |
| Hydropsychidae | 0.03 (0.02) | 0.02 (0.01) | 0 (0) | 0.02 (0.01) | 0.02 (0.01) | 0.02 (0.01) | 0 (0) | 0 (0) | 0 (0) | 0.03 (0.02) |
| Ceratopogonidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Coenagrionidae | 0 (0) | 0 (0) | 0.004 (0.003) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.005 (0.004) |
| Libellulidae | 0 (0) | 0.01 (0.01) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Gyrinidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Leptoceridae | 0.1 (0.1) | 0.08 (0.06) | 0.04 (0.02) | 0.01 (0.01) | 0.02 (0.01) | 0.06 (0.06) | 0 (0) | 0.04 (0.03) | 0.02 (0.01) | 0 (0) |
| Hydraenidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Pyralidae | 0 (0) | 0.03 (0.03) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Hydrophilidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Helodidae | 0.5 (0.3) | 0.12 (0.04) | 0.2 (0.07) | 0.2 (0.05) | 0.09 (0.03) | 0.4 (0.2) | 0.2 (0.1) | 0.03 (0.02) | 0.2 (0.1) | 0.1 (0.07) |
| Dysticidae | 0.06 (0.06) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Veliidae | 0 (0) | 0.01 (0.01) | 0 (0) | 0 (0) | 0.01 (0.01) | 0 (0) | 0.03 (0.02) | 0.02 (0.01) | 0.02 (0.01) | 0 (0) |
| Tipulidae | 0 (0) | 0 (0) | 0 (0) | 0.02 (0.01) | 0 (0) | 0 (0) | 0.04 (0.02) | 0.04 (0.04) | 0 (0) | 0 (0) |
| Heptagenidae | 0.2 (0.08) | 0.2 (0.09) | 0.2 (0.1) | 0.07 (0.05) | 0.04 (0.02) | 0.4 (0.3) | 0.2 (0.08) | 0.02 (0.01) | 0.1 (0.06) | 0.1 (0.05) |
| Dixidae | 0 (0) | 0 (0) | 0.01 (0.01) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Aeshnidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Others | 0.5 (0.2) | 0.5 (0.2) | 0.4 (0.1) | 0.2 (0.06) | 0.4 (0.1) | 2.4 (1.3) | 0.7 (0.3) | 0.3 (0.2) | 0.6 (0.1) | 0.5 (0.2) |
| Overall mean density | 0.6 (0.1) | 0.3 (0.06) | 0.3 (0.05) | 0.2 (0.03) | 0.2 (0.02) | 0.9 (0.3) | 0.5 (0.2) | 0.2 (0.07) | 0.2 (0.05) | 0.2 (0.05) |

Table S3: Mean (\pm SE) densities (individuals m^{-3}) of drifting invertebrates at the Njoro River during day and night time (minutes) intervals

| Family | Njoro River | | | | | | | | | |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|-------------|-------------|
| | Day | | | | | Night | | | | |
| Time | 5 | 10 | 15 | 20 | 25 | 5 | 10 | 15 | 20 | 25 |
| Chironomidae | 34.3 (7.3) | 20.1 (3.1) | 17.2 (3.2) | 17.6 (2.8) | 12.4 (2.1) | 19.5 (5.9) | 10.8 (1.8) | 7.6 (1.7) | 13.7 (3.6) | 5.5 (1.5) |
| Baetidae | 22.3 (3.0) | 9.6 (2.7) | 0.7 (1.8) | 7.4 (2.4) | 5.4 (1.0) | 18.6 (6.2) | 9 (2.4) | 6.3 (1.1) | 7.7 (1.8) | 5.5 (1.3) |
| Simuliidae | 1.3 (0.5) | 1.8 (0.6) | 1.2 (0.4) | 1.2 (0.5) | 0.4 (0.2) | 1.9 (0.6) | 0.4 (0.3) | 0.4 (0.2) | 0.2 (0.1) | 0.4 (0.2) |
| Caenidae | 9.3 (3.5) | 5.1 (1.7) | 3.7 (0.9) | 3.1 (1.2) | 2.9 (0.8) | 4.8 (2.1) | 2.5 (0.9) | 2.4 (0.5) | 0.9 (0.4) | 0.4 (0.2) |
| Elmidae | 4.5 (1.4) | 3.7 (0.9) | 1.9 (0.4) | 1.3 (0.3) | 1.5 (0.5) | 3.1 (2.4) | 2.5 (1.6) | 2 (0.5) | 1.5 (0.6) | 0.6 (0.2) |
| Culicidae | 1.5 (0.8) | 2.6 (0.8) | 2.2 (0.5) | 1.2 (0.2) | 1.1 (0.3) | 2.1 (0.7) | 1.8 (0.5) | 0.7 (0.2) | 1.1 (0.4) | 0.2 (0.1) |
| Hydropsychidae | 1.1 (0.7) | 0.5 (0.2) | 0.5 (0.4) | 0.5 (0.2) | 0.1 (0.1) | 0.7 (0.5) | 0.6 (0.3) | 0.7 (0.3) | 0.5 (0.2) | 0.03 (0.02) |
| Ceratopogonidae | 0.2 (0.1) | 1.3 (0.7) | 0.5 (0.4) | 0.1 (0.1) | 0.4 (0.2) | 0.3 (0.2) | 0 (0) | 0.3 (0.20) | 0.05 (0.04) | 0 (0) |
| Coenagrionidae | 0 (0) | 0.1 (0.1) | 0.1 (0.1) | 0.6 (0.4) | 0.2 (0.08) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Libellulidae | 0.3 (0.2) | 0 (0) | 0 (0) | 0.06 (0.05) | 0.05 (0.04) | 0 (0) | 0 (0) | 0.3 (0.1) | 0 (0) | 0 (0) |
| Gyrinidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.1 (0.1) | 0 (0) | 0 (0) | 0.3 (0.1) | 0.02 (0.01) | 0 (0) |
| Leptoceridae | 0.3 (0.2) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0.1 (0.09) |
| Hydraenidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.04 (0.04) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | v |
| Pyralidae | 0 (0) | 0.2 (0.1) | 0 (0) | 0.1 (0.01) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Hydrophilidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Helodidae | 0 (0) | 0 (0) | 0 (0) | 0.05 (0.05) | 0.1 (0.08) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Dysticidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.1 (0.1) | 0.4 (0.2) | 0 (0) | 0.09 (0.08) |
| Veliidae | 0 (0) | 0 (0) | 0.02 (0.01) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Tipulidae | 0 (0) | 0.08 (0.08) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.1 (0.1) | 0.3 (0.2) | 0 (0) | 0.03 (0.02) |
| Heptageniidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.08 (0.07) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Dixidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Aeshnidae | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0.3 (0.2) | 0 (0) | 0 (0) |
| Others | 10.1 (2.4) | 5.3 (1.4) | 5.9 (1.3) | 4.1 (0.6) | 2.6 (0.4) | 10.1 (1.7) | 0.4 (0.3) | 3.4 (0.4) | 4.2 (1) | 4.4 (0.5) |
| Overall mean density | 3.6 (0.5) | 2.1 (0.3) | 1.8 (0.2) | 1.6 (0.3) | 1.1 (0.2) | 2.5 (0.6) | 1.3 (0.2) | 1.2 (0.2) | 1.2 (0.2) | 0.8 (0.1) |