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Average noontime light intensity and temperature from 23 Oct to 15 Dec 2005 was 57 lux and 7.4° C in the reference watershed compared to 591 lux and 16.4° C in the stream with the 10m riparian buffer width. We expect to see a higher rate of snail secondary production in streams draining cut watersheds relative to the reference watershed due to higher primary productivity stimulated by increased light and nutrient availability and higher stream temperature.

(463) How to compare productivity and drift of the river benthos?

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Considering the drift of benthos in the investigated river part being a result of distribution of the whole upstream hydrobionts productivity, then the share of hydrobionts productivity (C, %) removed by drift from the river community during a certain time period would be calculated as: C = (D/P)100%; where, P is the productivity of aquatic organisms on the river bottom upstream of the point of investigation (g/m^{2}/time), and D is biomass of hydrobionts transported through the river cross section at the point of investigation (g/m^{2}/time). It was shown, parameter C for amphipods and mayflies larvae - over a 24 h period between floods - amounts to an insignificant part of the daily productivity of population (1-8 %), and decreases further as advancing away from the river source, while increasing parameter D considerably. During the floods, the daily value of C intermittently increases, and the multiple exceeds the value of P, which results in the obvious decrease of the hydrobionts biomass on the river bottom. It was found for the small creeks located in the monsoon climate that annual value of the river biomass removed by aquatic organisms drift could reach 30 % of the annual productivity of the river community.

(464) Secondary production by tadpoles in a Neotropical headwater stream.

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Amphibians are abundant in Neotropical streams and their complex life cycles link them to energy transfer between aquatic and terrestrial habitats. We used monthly estimates of abundance and biomass, along with *in situ* growth studies, to estimate production of tadpoles in a mid-elevation stream in Panama. Length-mass relationships were developed to estimate biomass, and small, medium, and large tadpoles were reared individually in growth chambers. Growth rates varied among taxa, and rates for all taxa combined showed a relationship with initial size ($y=-0.017\ln(x)+0.057$, $r^2=0.663$, $p = 0.001$). We applied growth models to monthly field densities to estimate production. Annual habitat-weighted production was 1.21 g AFDM $m^{-2}y^{-1}$ for all tadpole species, with *Hyla* (0.59 g AFDM $m^{-2}y^{-1}$) and *Colostethus* (0.50 g) dominating production. centrolenids (0.078 g) and *Rana* (0.034 g) contributed much less. Amphibian production has been rarely measured, and our values are low compared to values from temperate systems. However, because Neotropical streams have generally low productivity, tadpoles are likely relatively important in energy flow. Our results, as a part of the ongoing TADS project, further demonstrate the importance of tadpoles in ecosystem function, and thus increase our understanding of the ecological consequences of massive amphibian declines.

(465) Low biomass but high turnover of insects in a Venezuelan piedmont river.

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