Blackflies as indicators of ecological stress in two Alpine streams with different land use in the catchment

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Two streams in adjacent watersheds were sampled monthly from spring to autumn in 2010 and 2011. The two streams shared similar environmental conditions but one drainage basin was largely used for extensive agriculture and the second was in near to natural conditions. Physical-chemical parameters (mean water velocity, water temperature, dissolved O_2, pH, turbidity and conductivity) were measured in both streams during each sampling occasion. The benthic community was sampled with the standard kick-net technique and all individuals were counted and identified to the lowest possible taxonomical level. Results indicate significative differences between the impacted and reference streams in terms of abundance, composition and seasonality of the benthic communities. The blackly fauna resulted generally more abundant but less diverse in the impacted stream, dominated by more tolerant species.