

# CADDISFLY TRICHOPTERA DRIFT CHARACTERISATION IN THE DOMINATING HABITATS OF SMALL STREAMS IN LATVIA (PRELIMINARY RESULTS)

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## INTRODUCTION

The aim of this study was to investigate the impact of the current to the formation of the caddisfly communities in the small streams of Latvia



Sampling design (net frame size 0.25 x 0.25m; mesh size 0.5mm), n=6.

## RESULTS

The caddisfly taxa diversity and abundance of individuals in the drift samples was low.

8 taxa were stated in both the Koja stream and Striķupe stream, 14 taxa - in the Tumsupe stream.

The family Leptoceridae were represented by the most abundant individuals. *Lasiocephala basalis* were the most abundant in the Striķupe and Tumsupe streams, *Oligoplectrum maculatum* - in the Koja stream.

Caddisfly drift intensity and species diversity was higher during 00.00-00.30, lower - during 06.00-0.30 in the Koja and Striķupe streams.



These results approve known from the literature. But different pattern were established for Tumsupe, because of impact (reduced water depth and current velocity) of small waterpower plant, the highest drift intensity was established during 18.00-18.30, when the current velocity and water level was the highest.

In the drift samples caddisfly larvae large in size and with heavy cases (built from tiny grains of gravel or pebbles) were not stated.

## MATERIAL AND METHODS

Drift samples were taken at the end of September of 2006 in the three lowland streams (Koja - catchment's area 73.4 km<sup>2</sup>, Gauja Rivers basin; Striķupe - catchment's area 85.94 km<sup>2</sup>, Venta river basin; Tumsupe - catchment's area 106.4 km<sup>2</sup>, Daugava River basin) in four times per day and night (00.00-00.30, 06.00-06.30, 12.00-12.30 and 18.00-18.30).

In the KOJA STREAM samples were taken downstream to the psammal habitat (1) and downstream to the CPOM - psammal habitats (2);

In the STRIĶUPE STREAM - downstream to the macrophyte - psammal habitat (3) and to the CPOM - xylal - psammal habitat (4);

In the TUMSUPE STREAM - downstream to the riffle (5) and downstream to the complex habitat with psammal, CPOM, xylal, macrophytes and lithal microhabitats (6).

Samples were taken with six drift nets (frame size 0.25x0.25m<sup>2</sup>; mesh size 0.5mm) at the each investigated stream reach cross section. The current velocity was measured front of all drift nets.

Drift density were calculated by formula:  $(N) \cdot (100) / (t) \cdot (W) \cdot (H) \cdot (V) \cdot (3600s/h)$  (Smock 1996)

Comparison of species number in drift samples and bottom samples in the investigated stream reaches of the end of September of 2006

Stream	Drift sampler (n=6)	AQEM method, Surber sampler (0.25x0.25m <sup>2</sup> x 20)
Koja	8 (57%)	14
Tumšupe	6 (50%)	12
Striķupe	14 (64%)	22



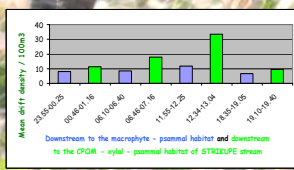
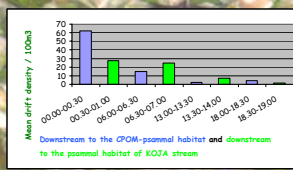
KOJA stream

Comparison of the taxa similarity and the mean drift density between investigated streams of the end of September of 2006

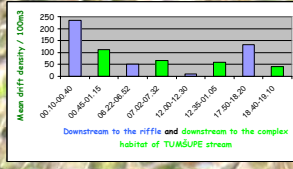
Stream	Habitat composition	The similarity of species composition of downstream and upstream drift sampler of investigated reaches	Mean density of individuals (per 100m <sup>3</sup> ) (from the all four times per day and night)
Koja	Downstream to the CPOM-psammal habitats	7 (8)	82.84
	Downstream to the psammal habitat		60.53
Tumsupe	Downstream to the riffle habitats	12 (14)	427.6
	Downstream to the complex habitat with psammal, CPOM, xylal, macrophytes and lithal habitats		276.3
Striķupe	Downstream macrophyte-psammal habitats	6 (8)	34.48
	Downstream CPOM-xylal-psammal habitats		72.3



STRĪĶUPE stream



Mean drift density per 100m<sup>3</sup> in investigated the streams in the end of September of 2006.



TUMŠUPE stream

## CONCLUSIONS

The density of the caddisfly larvae drift vary in different time of day and night and it depends on the type of the habitat;

The highest drift density and taxa diversity was characteristic for riffle, but the lowest - downstream macrophyte - psammal habitats;

The drift density downstream CPOM - psammal habitats in Koja and Striķupe was similar;

In the drift samples was found 50% from the taxa, comparing to the bottom samples

For general conclusions larger data set is necessary

## ACKNOWLEDGEMENTS

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