

Ephemeroptera; Monaghan (Nr. 0123)

Sammlungsinhalt

Organismengruppe / Objekte	Ephemeroptera, Plecoptera, Trichoptera
geschätzte Anzahl Proben	
geschätzte Anzahl Arten	
Sammler	Michael Monaghan
Sammlungszeitpunkt	1999
Sammlungszweck	
Konservatorischer Zustand	
Bemerkungen	

Dokumentation

Etikettierung	
Dokumentation	
Katalog	
Letzte Revision	
Publikationen	

Standort

Institution	
Aufbewahrung	

Notizen

- Diss. ETH No. 14561: Effekte der Habitat-Fragmentation auf die biologische und genetische Diversität von Makroinvertebraten
- J.P. Müller konnte keine weiterführenden Angaben machen
- Gemäss CTR keine Proben vorhanden

Publikationen

MONAGHAN MT, SPAAK P, ROBINSON CT, WARD JV. 2001. Population genetic structure of 3 Alpine stream insects: influences of gene flow, demographics and habitat fragmentation. Journal of the North American Benthological Society

KEIN MATERIAL VORHANDEN

Projekt	Projekt Nummer	Projektdauer	Führung	Projekt-Typ	Diplomand/ Doktorand	tit. vorhandene Sammlungen	vorhandene Sammlungen/IP Proben	Standort der Sammlung/Proben
Effekte der Habitat-Fragmentation auf die biologische und genetische Diversität von Makroinvertebraten	kein	1999-2002	Christopher Thomas Robinson	Dissertation	Michael Monaghan ✓	Ephemeroptera, Plecoptera, Trichoptera	Diss. ETH No. 14561/ divers publications (kein Proben)	Eawag Bibliothek
Moss distribution in relation to geochemical pathways of water flow through Macun Lakes network - a GPS-GIS approach	CH-1941	2002-2003	Christopher Thomas Robinson	Diplomarbeit	Sebastian Matthei	Hydrology, Wasserchemie		Eawag Bibliothek, National Park
Bacteria diversity and the functional traits of alpine freshwaters	CH-2200	2003	Christopher Thomas Robinson	Diplomarbeit	Brendan Logue	Bakterien, metabolism, respiration	Thesis, publication (kein Proben)	Eawag Bibliothek, National Park
Macun monitoring programm	CH-2201	2002-langfristig	Christopher Thomas Robinson	Permanent/Monitoring Project	Divers	Macroinvertebraten, Diatomen, Wasserchemie	Macun monitoring manual	National Park
Colonization and succession of macroinvertebrates in temporary and permanent streams of Macun	CH-2204	2003	Christopher Thomas Robinson	Diplomarbeit	Janine Rüegg	Chironomidae, Oligochaeta, Turbellaria?	Thesis, publication (kein Proben)	Eawag Bibliothek, National Park
Ecological Assessment of Springs in the Swiss National Park	CH-2218	2004	Christopher Thomas Robinson	Research Project	Dominik Schmid, Matthias Svoboda	Zoobenthos, Wasserchemie, Funktionen	Theses, publication (kein Proben)	Eawag Bibliothek, National Park
River morphology, invertebrates and floods (River Spöl, Swiss National Park)	CH-3426	2007	Christopher Thomas Robinson	Diplomarbeit	Sabine Mannes	Invertebraten, Wasserchemie, Algen biomass	Thesis, publication (kein Proben)	Eawag Bibliothek, National Park
Invertebrate and particle transport (River Spöl, Swiss National Park)	CH-3427	2007	Christopher Thomas Robinson	Diplomarbeit	Tobias Buser	hydromorphology, algen biomass	Thesis (kein Proben)	Eawag Bibliothek
Dispersal and Refugia use by Macroinvertebrates in Response to Experimental Flooding (River Spöl, Swiss National Park)	CH-1816	2001	Christopher Thomas Robinson	Diplomarbeit	Stefan Aebischer	Macroinvertebraten	Thesis, publication (kein Proben)	Eawag Bibliothek, National Park
Effects of experimental flooding on a regulated stream along a longitudinal gradient (River Spöl, Swiss National Park)	CH-1812	2001	Christopher Thomas Robinson	Diplomarbeit	Christian Jakob	Macroinvertebraten	Thesis, publication (kein Proben)	Eawag Bibliothek, National Park
Springs and spring brooks along a river corridor in the Alps (Ova dal Fuorn, Swiss National Park)	CH-1787	2002	Christopher Thomas Robinson	Diplomarbeit	Michael Döring ✓	Invertebraten, Wasserchemie, Algen	Thesis	Eawag Bibliothek
Long-term monitoring of River Spöl		1999-langfristig	Christopher Thomas Robinson	Permanent/Monitoring Project	Divers	Invertebraten, Wasserchemie, Algen	Publications	Eawag Bibliothek, National Park

Robinson Christopher Thomas

Bacteria diversity and the functional traits of alpine freshwaters

Project Number: CH-2200

Project Type: Diploma

Project Duration : 4/1/03 - 12/31/03 **project completed**

Funding Source : EAWAG ,

Project Leader : PD Dr. Christopher Thomas Robinson
Fließgewässerökologie, Fließgewässersysteme
Aquatic Ecology (ECO)
EAWAG

Postfach 611

8600 Dübendorf

Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32

FAX: +41 (0) 44 823 53 15

e-Mail: christopher.robinson@eawag.ch

http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Brendan Longue (Graduate Student)

Programs

for which the project has a relevance.

Research Areas:

AC ALPINE CONVENTION

Disciplines:

hydrology, limnology, glaciology
environmental sciences

Keywords:

microbiology
population genetics
bacteria
diversity
alpine freshwaters
rivers
T-RFLP, DAPI
hyporheic respiration
open system metabolism
heterotrophy
autotrophy
periphyton

Abstract:

Relationship between bacteria genetic diversity, sediment organic content, and the ecosystem metabolism of Alpine streams

Bacteria play an important role in the transfer of energy and ecosystem metabolism within freshwater systems. We compared bacteria abundance (DAPI-stained cell counts), relative bacteria genetic diversity (terminal restriction

fragment length polymorphism, T-RFLP, a molecular genetic technique) and sediment organic content (ash-free dry mass: AFDM) in 11 streams of 3 different Alpine catchments during summer 2003. We also related the above parameters, in addition with periphyton biomass and hyporheic respiration, with whole stream estimates of gross primary production (GPP) and ecosystem respiration (ER) in a glacial and non-glacial stream in one of the catchments.

Counts of bacteria cells per ml sediment averaged 2×10^6 to 4×10^6 , and were correlated with sediment AFDM for streams in only one of the catchments. The percent organic matter of sediments ranged from 4 to 14% (0.01 to 0.04 g AFDM per ml sediment). Bacteria genetic diversity (based on the presence and absence of terminal sites, T-RFs, from T-RFLP analysis,) showed strong seasonality and differed between glacial- and groundwater-fed streams. In the one catchment, hyporheic respiration averaged 0.0004 and 0.0003 g O₂ h⁻¹ kg sediment⁻¹ and was positively correlated with AFDM ($r^2 = 0.23$). Although ecosystem metabolism displayed a strong seasonality, GPP averaged 4.5 and 8.4, ER 5.4 and 9.9 g O₂ m⁻² d⁻¹ for the two sites, respectively, thus indicating a predominance of heterotrophy in these open-canopied systems.

Key words: T-RFLP, DAPI, hyporheic respiration, open system metabolism, heterotrophy, autotrophy, periphyton

Jürg Brendan Logue and Christopher T. Robinson

Department of Limnology, Swiss Federal Institute for Environmental Science and Technology (EAWAG/ETHZ),
Überlandstrasse 133, CH-8600 Dübendorf, Switzerland

Christoph Meier and Jan Roelof Van der Meer

Department of Microbiology, Swiss Federal Institute for Environmental Science and Technology (EAWAG/ETHZ),
Überlandstrasse 133, CH-8600 Dübendorf, Switzerland

Publications:

Logue JB, Robinson CT, Meier C, Van der Meer JR 2004: Relationship between bacteria genetic diversity, sediment organic content, and the ecosystem metabolism of Alpine streams. Department of Limnology, Swiss Federal Institute for Environmental Science and Technology (EAWAG/ETHZ), Überlandstrasse 133, CH-8600 Dübendorf, Switzerland

Logue B 2003: Bacterial diversity and stream ecosystem metabolism: functional relationships. Diplomarbeit, EAWAG

Last update: 2/15/07

'Go Back'

Robinson Christopher Thomas

Colonization and succession of macroinvertebrates in temporary and permanent streams of Macun (Swiss National Park)

Project Number: CH-2204

Project Type: Diploma
Project Duration : 4/1/03 - 12/31/03 **project completed**
Funding Source : EAWAG ,
Project Leader : PD Dr. Christopher Thomas Robinson
Fließgewässerökologie, Fließgewässersysteme
Aquatic Ecology (ECO)
EAWAG
Postfach 611
8600 Dübendorf
Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32
FAX: +41 (0) 44 823 53 15
e-Mail: christopher.robinson@eawag.ch
http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Programs

for which the project has a relevance.

*Janine Rüegg (Graduate Student
Aquatic Ecology (ECO)
EAWAG
Überlandstrasse 133
8600 Dübendorf
janine.rueegg@eawag.ch*

Research Areas:

AC ALPINE CONVENTION

Disciplines:

environmental sciences

hydrology, limnology, glaciology

Keywords:

macroinvertebrates, stream, temporary, life history, *Prosimulium latimucro*, Chironomidae, drought

Abstract:

Comparison of Macroinvertebrates Assemblages of Permanent and Temporary streams in an Alpine Flood Plain

Janine Rüegg and Christopher T. Robinson

Department of Limnology, EAWAG/ETH, Überlandstrasse 133, 8600 Dübendorf, Switzerland

Author for correspondence: robinson@eawag.ch

Abstract

We examined macroinvertebrate assemblages of temporary and permanent alpine streams during summer 2003 in the Swiss Alps. Stream types were separated by species richness and abundance even though within stream type variability was high. Temporary streams contained less species and lower individual numbers. Temporary streams could be divided

in 2 groups by duration of surface flow. Streams with short flow periods were dominated by Chironomidae and Oligochaeta, while other temporary streams were dominated solely by Chironomidae. Permanent streams were dominated by Chironomidae and Turbellaria (Crenobia alpina) or Chironomidae and EPT taxa. Temporal succession showed no pattern in species richness but showed a replacement of species. Chironomidae assemblages differed between sites with a higher diversity in permanent streams. In the temporary streams, species of the subfamily Orthoclaudiinae were only found in low abundances. Temporary alpine streams showed similar overall patterns as temporary streams of other regions. Life cycles comparison of the simuliid Prosimulium latimucro, which was present at permanent sites as well as temporary, revealed more synchrony and faster development in the temporary site. At one permanent site, the life cycle was fast, whereas the other site showed a lagging period of late instar larvae. High temperatures and low precipitation in summer 2003 lead to extremely dry conditions. Comparison of assemblages with the previous year's data showed a difference in community structure. In 2002 the assemblage was dominated by Chironomidae, while in 2003 Crenobia alpina accounted for almost 50% of the assemblages. The assemblage composition of the mid-July 2002 sample resembled those of the 1 July 2003 sample. Life history patterns of Prosimulium latimucro showed higher growth in the beginning of the year in 2003. Species composition and life cycle indicate a fast response to unpredictable drought.

Key words: macroinvertebrates, stream, temporary, life history, Prosimulium latimucro, Chironomidae, drought

Publications:

Rüegg J 2003: Comparison of Macroinvertebrates Assemblages of Permanent and Temporary Streams in an Alpine Flood Plain. Diplomarbeit Teil 1, EAWAG

Rüegg J 2003: Macun Monitoring Manual: Grundlage der Datenerhebung für das Langzeitmonitoring der Macun Seenplatte. Diplomarbeit Teil 2, EAWAG

Last update: 2/15/07

'Go Back'

Robinson Christopher Thomas

Ecological Assessment of Springs in the Swiss National Park

Project Number: CH-2218

Project Type: Research_Project
Project Duration : 5/1/04 - 10/31/04
Funding Source : EAWAG ,
Project Leader : PD Dr. Christopher Thomas Robinson
Fliessgewässerökologie, Fliessgewässersysteme
Aquatic Ecology (ECO)
EAWAG
Postfach 611
8600 Dübendorf
Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32
FAX: +41 (0) 44 823 53 15
e-Mail: christopher.robinson@eawag.ch
http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Programs

for which the project has a relevance.

Dominik Schmid } Graduate stud
Matthias Stoboda }
Christian Schlüchter (Co-Project lead
Tom Gonser (Coordinated Project
Collaborator)

Research Areas:

AC ALPINE CONVENTION

Disciplines:

hydrology, limnology, glaciology
environmental sciences

Keywords:

springs, ecosystem function, food webs, stoneflies, Plecoptera

Abstract:

The project is intended to gather baseline ecological information on a number of springs in Val Laschudura and the Swiss National Park. Data generated will be assessed in the framework of geochemical analyses previously completed on the springs. The baseline data will be used to generate future research projects on selected springs, perhaps in collaboration with researchers of springs in other parks throughout Europe.

The research has two facets: one is the longitudinal development in spring metabolism and function, and the other is an assessment of the biodiversity (i.e., macroinvertebrates) of springs and the influence of spring isolation in the distribution of populations. The second part may incorporate a genetic analysis but this is uncertain at present.

Part 1 will examine whole system metabolism in conjunction with measures of primary production and sediment respiration. A number of springs (e.g., 5 different springs) will be assessed at periodic intervals throughout the study period. We also may conduct some measures of bacterial abundances in sediments.

Part 2 will assess the biodiversity of macroinvertebrates in a large number of springs, with samples collected directly near the source (5-10 m below). The data will look for spatial distribution patterns in the assemblages and relate assemblage structure to the physical and chemical properties of the springs. It is possible that a species common to all

springs will be assessed genetically to examine for patterns of isolation and fragmentation.

Publications:

Schmid D 2004: Ecosystem metabolism and nutrient uptake of springs in the Swiss Alps. Diplomarbeit ETH Zürich & EAWAG

Svoboda M 2004: Food webs in Alpine spring systems in the Swiss National Park. Diplomarbeit ETH Zürich & EAWAG

Last update: 2/15/07

'Go Back'

Robinson Christopher Thomas

River morphology, inversbraes and floods (River Spöl, Swiss National Park)

Project Number: CH-3426

Project Type: Diploma

Project Duration : 3/1/07 - 10/31/07

Funding Source : EAWAG ,

Project Leader : PD Dr. Christopher Thomas Robinson
Fließgewässerökologie, Fließgewässersysteme
Aquatic Ecology (ECO)
EAWAG
Postfach 611
8600 Dübendorf
Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32
FAX: +41 (0) 44 823 53 15
e-Mail: christopher.robinson@eawag.ch
http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Sabine Manner
EAWAG

Programs

for which the project has a relevance.

smanner@student.ethz.ch

Abstract:

Last update: 4/18/08

'Go Back'

Manner, S. (2007): River morphology, invertebrates and floods : The Spöl.
Master, ETH Zürich & EAWAG Dübendorf.

Robinson Christopher Thomas

Invertebrate and particle transport (River Spöl, Swiss National Park)

Project Number: CH-3427

Project Type: Diploma

Project Duration : 3/1/07 - 10/31/07

Funding Source : EAWAG ,

Project Leader : PD Dr. Christopher Thomas Robinson
Fließgewässerökologie, Fließgewässersysteme
Aquatic Ecology (ECO)
EAWAG

Postfach 611

8600 Dübendorf

Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32

FAX: +41 (0) 44 823 53 15

e-Mail: christopher.robinson@eawag.ch

http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Tobias Buser (?)

Programs

for which the project has a relevance.

Abstract:

Last update: 4/18/08

'Go Back'

Robinson Christopher Thomas

Dispersal and Refugia use by Macroinvertebrates in Resonse to Experimental Flooding (River Spöl, Swiss National Park)

Project Number: CH-1816

Project Type: Diploma

Project Duration : 2/1/01 - 12/1/01 **project completed**

Funding Source : EAWAG ,

Project Leader : PD Dr. Christopher Thomas Robinson
Fliessgewässerökologie, Fliessgewässersysteme
Aquatic Ecology (ECO)
EAWAG

Postfach 611

8600 Dübendorf

Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32

FAX: +41 (0) 44 823 53 15

e-Mail: christopher.robinson@eawag.ch

http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Stefan Aebischer (Graduate Stud.

stefan.aebischer@gmx.ch

Programs

for which the project has a relevance.

Disciplines:

hydrology, limnology, glaciology
environmental sciences

Keywords:

river
biodiversity

Abstract:

Although flooding is a primary attribute of most streams and rivers, little information exists on the response of macroinvertebrates during and following flooding. Experimental evidence from disturbance studies suggests that the ramifications on community structure and dynamics can be extreme with both short and long term effects.

A major emphasis on riverine management has been to restore the 'natural' flow regime of rivers downstream of reservoirs. Other aspects of reservoir management have resulted in the actual removal of dams (especially common in the USA). Most dams in Europe and Switzerland, in particular, will likely remain in place for maintaining hydropower production and flow control. Consequently, the most promising avenue for restoring downstream

receiving waters to near natural conditions is to implement flows that emulate expected natural regimes.

Many potential sites for restoring near natural flows below reservoirs have been highly regulated for 10s of years with consequent changes in macroinvertebrate assemblage structure. Its imperative that managers understand the consequences of restoring activities on the ecology of downstream receiving waters.

Objectives:

Compare different types of stream substrata and morphology as areas of refugia for macroinvertebrates during flooding.

Examine the dispersal of macroinvertebrates before, during and after flooding in a pre-defined stream reach.

Publications:

Robinson CT, Aebischer S, Uehlinger U 2004: Immediate and habitat-specific responses of macroinvertebrates to sequential, experimental floods. Journal of the North American Benthological Society 23(4): 853-867

Aebischer S 2001: Auswirkungen künstlicher Hochwasser auf die Drift und Habitate aquatischer Invertebraten (Spöl, Schweizerischer Nationalpark). Diplomarbeit, EAWAG & Departement Biologie, ETH Zürich

Last update: 9/14/07

Robinson Christopher Thomas

Effects of experimental flooding on a regulated stream along a longitudinal gradient (river Spöl, Swiss National Park)

Project Number: CH-1812

Project Type: Diploma

Project Duration : 1/1/01 - 12/31/01 **project completed**

Funding Source.: other ,

Project Leader : PD Dr. Christopher Thomas Robinson
Fließgewässerökologie, Fließgewässersysteme
Aquatic Ecology (ECO)
EAWAG

Postfach 611

8600 Dübendorf

Phone: +41 (0) 44 823 53 17 ; +41 (0) 44 823 51 32

FAX: +41 (0) 44 823 53 15

e-Mail: christopher.robinson@eawag.ch

http://www.eawag.ch/research/lim/d_index.html

Persons

related to this project.

Programs

for which the project has a relevance.

Disciplines:

hydrology, limnology, glaciology

zoology

environmental sciences

general biology

Keywords:

river

biodiversity

Abstract:

Compare the changes in ecological factors (pH, temperature, turbidity, stream morphology, changes in macroinvertebrate community, recolonization speed, biological activity and drift quantities) at different sites along a longitudinal gradient along the Spöl over time.

Investigate changes in size of a crustacean, Gammarus sp., from 1999 (before the first floods) to 2001.

Publications:

Jakob C, Robinson CT, Uehlinger U 2003: Longitudinal effects of experimental floods on stream benthos downstream from a large dam. Aquatic Sciences, Vol. 65: 223-231. EAWAG Dübendorf. Birkhäuser Verlag. ISSN 1015-1621

Jakob C 2001: The effects of artificial floods on the ecology of a regulated river (The River Spöl, Swiss National Park). Diplomarbeit, EAWAG & Departement Biologie ETH Zürich

Last update: 4/26/07

Bündner Natur-Museum Praktikant

Von: Robinson Christopher [Christopher.Robinson@eawag.ch]
Gesendet: Freitag, 6. Februar 2009 13:44
An: Bündner Natur-Museum Praktikant
Betreff: RE: Schweizerischer Nationalpark, Sammlungen

Hallo Marion,

Beilage mit Robinson Projekten in Schweizer Nationalpark-

Freundliche Grüsse- Chris

From: Bündner Natur-Museum Praktikant [mailto:praktikant@bnm.gr.ch]
Sent: Freitag, 6. Februar 2009 12:05
To: Robinson Christopher
Subject: Schweizerischer Nationalpark, Sammlungen

Sehr geehrter Herr Robinson

Ich mache im Auftrag der Forschungskommission des Schweizerischen Nationalparks und des Bündner Naturmuseums Recherchen zu Sammlungen aus dem SNP. Sie leiten/leiteten einige Projekte im Fachbereich Hydrologie, die im Nationalpark stattfinden/stattfanden. Allerdings weiss ich nicht, ob während den verschiedenen Projekten auch Aufsammlungen gemacht wurden. Thomas Scheurer meinte, ich solle direkt bei Ihnen nachfragen. Ich habe dazu eine Liste der Projekte zusammengestellt, die mir bekannt sind und zu jedem Projekt mögliche Sammlungen notiert. Ich wäre sehr froh, wenn Sie mir sagen könnten, ob zu den einzelnen Projekten Sammlungsobjekte existieren und wenn ja, wo diese gelagert sind.

Freundliche Grüsse
Marion Schmid

Marion Schmid
Bündner Naturmuseum
Masanserstr. 31
7000 Chur
081 257 28 54