

Colombian Darien Ephemeroptera

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Introduction

Although Ephemeroptera order is not the most diverse among aquatic insects, it's one of the most abundant and frequent in freshwater settings (Domínguez, 1992). All members of this group inhabit the riverbeds during their juvenile stage as part of the benthic communities and in the adult stage, they return to land some of the aquatic ecosystems' energy, moreover due to their differential pollution tolerability, they are considered suitable as water quality indicators.

The Colombian Darien is a very important place for the study of the mayfly fauna because it lies inside the corridor between North and South America, in spite of this, the knowledge of mayfly's fauna is still scarce and limited.

Material and Methods

Darien occupies Colombia's northwestern end, and consists of mountain ranges not higher than 400m, with tropical rainforest distinguishes by annual rainfall between 1900mm and 3000mm and relatively steady temperatures between 24°C and 25°C. The study was conducted in a clear, unpolluted and without human disturbance stream (Coquital stream), that had a great caudal variation with local rain.

Samples were taken during ten days in the rainy season; the nymphs were collected with a Surber sampler (225 cm², mesh size 250µm) in two different substrates (cobbles or leaves) and the adults with light traps in the morning (05:00-06:00h) and in the evening (18:00-19:00h).

Results

We collected 278 nymphs and 2581 adults belonging to five families and 11 genera, the following table shows this results.

Table 1 - List of families and genera found.

Family	Genus
Baetidae	<i>Baetodes</i> (NEEDHAM & MURPHY, 1924)
	<i>Callibaetis</i> (EATON, 1881)
	<i>Americabaetis</i> (KLUGE, 1992)
Leptophlebiidae	<i>Farrodes</i> (PETERS, 1971)
	<i>Tharulodes</i> (ULMER, 1943)
	<i>Terpides</i> (DEMOULIN, 1966)
	<i>Hagenulopsis</i> (ULMER, 1920)
Leptohyphidae	<i>Leptohyphes</i> (EATON, 1882)
	<i>Tricorythodes</i> (ULMER, 1920)
Caenidae	<i>Caenis</i> (STEPHENS, 1835)
Polymitarcidae	<i>Campsurus</i> (EATON, 1968)

Abstract

This study involves the biodiversity and ecology of Ephemeroptera in the Colombian Darien (South America). Five families and 11 genera were collected in the study area. The genus *Hagenulopsis* is reported for the first time in Colombia. *Farrodes* was the most abundant taxon collected. This study uphold "The great American interchange" hypothesis.

Keywords: Ephemeroptera, Darien, Colombia, benthic community, surber, light traps.

Discussion

While *Hagenulopsis*, *Americabaetis* and *Campsurus* were represented only from nymphal collections, *Callibaetis* was solely from adults. *Hagenulopsis* is a new report from Colombia.

The most predominant genera of nymphs were *Farrodes* and *Baetodes*, on the other hand *Hagenulopsis* had lesser number. The preferred habitat was the leaves where the majority of genera were found.

In adults *Callibaetis* had lesser number meanwhile *Farrodes* and *Leptohyphes* were the predominant genera. The highest emergence was observed during the morning, may be because the emergence peaks were related with the morning's lowest temperatures, condition that didn't allow the dehydration of the adults.

According to "The great American interchange" hypothesis the mayfly fauna of Darien may consist of North and South American elements because it lies inside the corridor between them, the results of this study uphold this premise because we found both of them.

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