

THE EPHEMEROPTERA FROM CREEKS AND RIVERS FROM TWO SOUTHERN
SOUTHAMERICAN BASINS AND ITS RELATIVE PRESENCE ALONG THE
RIVER CONTINUUM

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Summary. During the years 1977-1981, periodical macrozoo-
benthic samples were collected at several order streams - small
creeks to large rivers -, belonging to the Negro river basin,
North Patagonia, Argentina. On 1983, similar works is being done
on Valdivia river basin streams, Chile.

Negro river basin, as most of Argentina hydro-
graphic systems, is spread out. First order creeks are born at
east slope of Andean Mountains. Two main rivers, Limay and Neu-
quen, form Negro, which after traversing around 550 km joins
the Atlantic Ocean at 41° Lat. S. A sequence of dams is being
done on Limay and Neuquen.

Chilean basins are short, compared with Argen-
tine ones. Upper reaches of the creeks are at Andean west slo-
pes and the transformation from rhithron to potamon is much
faster than at Argentine side. It is discussed up to now if re-
al potamon exists at Chilean basins. Valdivia river reaches
Pacific Ocean at almost 40° S.

Vannote et al. /1980/ developed The River Conti-
nuum Concept where, according to the degree of particle size,
mainly of organic matter, available light, water quality, etc.,
different proportions of the functional groups are present; be-
sides, each species adapted to each condition is being replaced
by another one along the continuum.

Though some species remain undescribed, fortuna-
tely the Ephemeroptera from Southern Southamerican streams are
quite well-known. The papers of Edmunds, Allen and Peters 1963,
Edmunds 1972, Peters and Edmunds 1972, Pescador and Peters 1980,
and others, and the continuous work of these researchers does
the knowledge of Southern Southamerican Ephemeroptera increase
each day.

The Ephemeroptera nymphs most represented in

macrozoobenthic samples taken at Chile and Argentina since 1977, are Meridialaris laminata Ulmer and Meridialaris deguilina Demoulin /Leptophlebiidae/. Meridialaris has a very wide ecological tolerance. "It is rather broadly distributed ecologically and geographically. The nymphs occupy a wide variety of permanent streams from small rivulets to large rivers. The ability to live in a relatively wide variety of streams gives the genus a great ability to disperse. The nymphs of Meridialaris are flattened. They occupy a variety of microhabitats, but are found primarily on the surfaces of stones and other flat objects. The nymphs have the ability to move freely in any direction". /Peters and Edmunds 1972/. Our observations allow us to agree with these authors because we found Meridialaris at most of streams of Negro /Argentina and Valdivia /Chile/ rivers basins and it is present all along the continuum. The nymphs seem to prefer the places where the stones are covered with detritus where they probably get their food and hide. They are much more abundant at the Argentina side and the relative quantity of them at benthos samples is much higher than the presence of Gripopterygidae /Plecoptera/; to the contrary, at Chilean slope of the Andes, at some streams these gripopterygids nymphs are more common than leptophlebiids. It seems to be related with the relative abundance of detritus, that is high at Negro basin streams at lateral depositional, pools habitats.

Others less abundant Ephemeroptera are Baetis /Baetidae/, unidentified species up to know, very common at medium size streams, and Chiloporter eatoni Lestage /Siphonuridae/, only present in mountain brooks characterized by quite large stones as Meliquina /Neuquen Province, Argentina/. Some small Heptageniidae not still identified were also found at medium size streams.

The only genus found all along the continuum, at least the stations where samples were taken /samples from last part of rivers-potamal-stretches - near mouth to the Oceans, were not taken and are missing/, is Meridialaris. Chiloporter seems to be replaced by Baetis and the Heptageniidae.

It is interesting to remark that several species recorded for the area were not collected between years 1977-1981 at Negro basin. This may be possible due to the remotion work is being done on main rivers by the construction of dams /four of them are already flooded, one finished and going to be filled, two under construction and several more planned/. On Valdivia basin there are not dams, so the hypothesis could be confirmed if the missing species, as recorded before, appear this year at Chilean slope of the Andes.