



PROGRAM & ABSTRACTS

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Assessment of macroinvertebrate communities and water quality in Northwest Quito Metropolitan District

Naomi **Santana**, Carla Díaz, and Rebeca Paredes

Universidad Tecnológica Indoamerica, Quito, Ecuador

Corresponding author: Naomi Santana (tamisantana2002@gmail.com)

Macroinvertebrates serve as pivotal indicators of water quality due to their sensitivity to environmental shifts and ubiquitous presence in aquatic ecosystems. They mirror the conditions of their habitat and water physicochemical properties, offering a reliable assessment tool. In a study within Quito's Metropolitan District, researchers examined three rivers: Pahuma, Pichán, and Mashpi Chico, employing Surber and kick nets for collection. They conducted physical-chemical water analyses and habitat assessments alongside macroinvertebrate identification. The study utilized diverse indices like QBR-And, IHF, Shannon, BMWP/Col, and EPT to evaluate water quality and macroinvertebrate diversity. Results revealed superior water quality in Mashpi and Pahuma, marked by higher species diversity and better water quality indices compared to Pichán. The presence of pollution-sensitive macroinvertebrates indicated healthier aquatic habitats in Mashpi and Pahuma. Despite data processing challenges, discernible disparities in water quality among the rivers were evident, suggesting human interference in Pichán contributing to its inferior quality. The study underscores the necessity of conserving natural areas and implementing monitoring and mitigation strategies to safeguard aquatic ecosystems' health and biodiversity.

On the Andean endemic genus *Scotiotrichia* Mosely (Trichoptera: Glossosomatidae: Protoptilinae): description of the larva and biogeographic patterns of the Andean Protoptilinae

Julieta V. **Sganga**¹, Cecilia Brand^{2,3}, Juan J. Morrone⁴, Danielle Anjos-Santos^{2,3}

1—Departamento de Biodiversidad y Biología Experimental, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina 2—Centro de Investigaciones Esquel de Montaña y Estepa Patagónica (CIEMEP-CONICET-UNPSJB), Esquel, Argentina 3—Facultad de Ciencias Naturales y Ciencias de la Salud, Universidad Nacional de la Patagonia “San Juan Bosco”, Esquel, Argentina 4—Museo de Zoología ‘Alfonso L. Herrera’, Facultad de Ciencias, Universidad Nacional Autónoma de México (UNAM), Mexico City, Mexico

Corresponding author: Julieta V. Sganga (jsganga@gmail.com)

Scotiotrichia Mosely is a monospecific genus of the subfamily Protoptilinae, endemic to the Andean region. *Scotiotrichia ocreata* is known exclusively from the adults and has been recorded from the Patagonia of Argentina and Chile. To associate the larva of this species, we examined adults collected in the Chubut province using Malaise and light traps and larvae and metamorphotypes collected manually or with a Surber net sampler. The larva of *Scotiotrichia ocreata* is characterized by the morphology of the tarsal claws, with basal process short and thick, arising perpendicular to the base of the claw, and basal seta long and broad; the chaetotaxy of the legs, especially the number and distribution of feathered setae; the presence of three accessory teeth on the anal prolegs; and six pairs of long setae on abdominal tergum IX. Additionally, we gathered information regarding the distribution of all known Protoptilinae species found in the Andean region *sensu lato* to study their distributional patterns using a track analysis. We found two generalized tracks, one austral, corresponding to the Subantarctic subregion, and another northern, at the Páramo province of the South American transition zone. These tracks represent ancestral biotas that were fragmented by geologic or climatic events.