

Endangered and exceptional: New insect species highlights Kosovo biodiversity hotspot

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Tinodes lumbardhi, the new species from Lumbardhi i Deçanit River in Kosovo.
Credit: Halil Ibrahim

A new species of caddisfly, *Tinodes lumbardhi*, was found in a sidestream of the Lumbardhi i Deçanit River in Kosovo's Bjeshkët e

Nemuna National Park. The discovery, made by Professor Halil Ibrahimimi of the University of Prishtina and his research team, underscores the region's high biodiversity and urgent need for conservation. The work is [published](#) in the *Biodiversity Data Journal*.

The aquatic insect is small, with its wings less than 5 mm long. Its name, "lumbardhi," honors the local Albanian name for the river, meaning "the white river."

"The discovery of *Tinodes lumbardhi* is both a celebration of Kosovo's unique natural heritage and a wake-up call for conservation," said Professor Ibrahimimi. "The survival of these species depends on our ability to protect their fragile habitats."

Hosting several rare and endemic species, Bjeshkët e Nemuna, a mountainous region in western Kosovo, is a hotspot for caddisfly diversity. Despite this richness, however, Kosovo's freshwater ecosystems face escalating threats from human activities.

Hydropower development, pollution, and water extraction have severely degraded habitats like the Lumbardhi i Deçanit River, leading in some areas to impoverished insect communities and an alarming absence of fish. Sidestreams like the one where *T. lumbardhi* was found serve as critical refuges for [rare species](#) but remain vulnerable to environmental pressures.



The type locality of *Tinodes lumbardhi*, a shelter for several other rare species of caddisflies. Credit: Halil Ibrahim



Heavy environmental pressures endanger the aquatic fauna of Lumbardhi i Deçanit River in Kosovo. Credit: Halil Ibrahim



Riverbed degradation in the Lumbardhi i Deçanit River. Credit: Halil Ibrahim



Riverbed degradation in the Lumbardhi i Deçanit River. Credit: Halil Ibrahim

Caddisflies, known for their sensitivity to [environmental changes](#), are key bioindicators of freshwater ecosystem health. These [small insects](#) are not only vital for biodiversity but also for maintaining ecological stability in the face of threats such as climate change and habitat destruction.

Kosovo's caddisfly fauna has seen significant advancements in recent years, with contributions from Ibrahim and his team shedding light on the region's ecological treasures. Their work has revealed species such as [Potamophylax kosovaensis](#) and [Potamophylax coronavirus](#), emphasizing the importance of ongoing research and conservation efforts.

The discovery of *Tinodes lumbardhi* adds to the growing recognition of Bjeshkët e Nemuna as a biodiversity hotspot of international significance. The researchers call for urgent targeted conservation measures to mitigate the impacts of hydropower development and other anthropogenic threats in the region.

"Protecting these rare species and their habitats is not only a moral imperative but also a crucial step toward sustaining the ecological integrity of Kosovo's freshwater systems," Ibrahim concludes.

More information: Halil Ibrahim et al, *Tinodes lumbardhi* sp. nov. (Trichoptera, Psychomyiidae), a new species from the Lumbardhi i Deçanit River in Kosovo, *Biodiversity Data Journal* (2025). [DOI: 10.3897/BDJ.13.e143104](https://doi.org/10.3897/BDJ.13.e143104)

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