

## **Records of Plecoptera (Insecta) species and affects of episodic acidification on physico-chemical properties of their habitats in the Eastern Black Sea Region and Yeşilırmak River Basin (Turkey)**

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### **ABSTRACT**

1. This paper provides records of 13 Plecoptera species from streams in the Eastern Black Sea Region and Yeşilırmak River Basin.
2. Physical and chemical variables of habitats such as dissolved oxygen, temperature, pH, conductivity, current speed, turbidity, calcium and magnesium hardness, nitrite, nitrate, ammonia, phosphate and sulphate were also given.
3. The orthophosphate concentrations (between 1.865 and 2.686 mg/l) were high and pH values were low between 4 and 6.8 (episodic acidification) in collecting sites due to increasing floods of melted-snow and rainfall in spring and early summer period. Episodic acidification is a serious problem and has been reported from Turkey for the first time.
4. Global climate change led to earlier snowmelt and increased frequency of floods in the Eastern Black Sea Region.
5. Reasons of low species richness of Plecoptera may be explained either by degradation of their habitat because of the effects of organic pollution, industry, recreation and/or long-term effects of global climate change.

**KEY WORDS:** Eastern Black Sea Region, episodic acidification, flood, global climate change, Plecoptera species, running waters, snowmelt, streams, Turkey, water quality, Yeşilırmak River Basin.