Government of the Autonomous Republic of Adjara

Shota Rustaveli State University in Batumi

International Foundation for Sustainable Development

Euro Mediterranean Academy of Arts and Sciences

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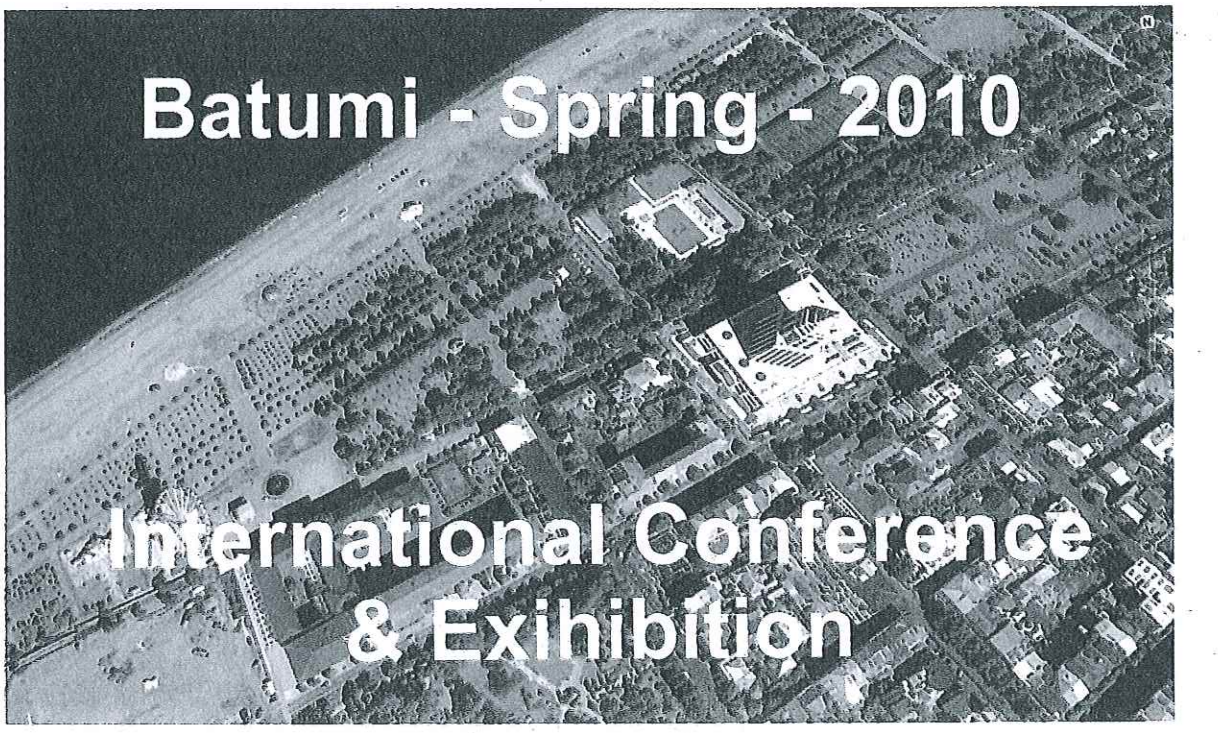

Programme & Abstracts

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75th Anniversary of Shota Rustaveli State University in Batumi!

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Effects of Building Dams and Run-of-River Type Hydropower Plants in Çoruh Valley on the Floral Richness of Artvin

Özgür Eminağaoğlu, Funda Erşen Bak, and Mehmet Özalp, Artvin Çoruh University, Turkey

Artvin province, one of the World's richest regions in respect to biological diversity, is known as one of the most important 25 Threatened Terrestrial Ecological Regions in the World. In addition, with 4 Important Plant Areas, 1 Biosphere Reserve Area, 2 National Parks, 3 Nature Conservation Areas, and 1 Natural Park in its province, Artvin is also one of the most important areas in Turkey in terms of plant richness. While there are a total of 1308 vascular plant taxa belonging to 112 families and 502 genera, it is determined that there are 243 rare plant taxa, including 158 endemics and 85 non-endemics according to IUCN risk categories. The endemism ratio is estimated to be 12.07% (158 taxa). As for the rare plant species in the province of Artvin, out of the total 243 rare plant taxa found, 65, 66, and 112 were identified as threatened at the Global Scale, at the European Scale, and at the National Scale, respectively. Moreover, it was determined that while 6 plant species are subject to the Bern Convention, 17 plant species are subject to the CITES Convention.

Recently, Çoruh River Watershed of Artvin Province, one of many large basins of the Black Sea Region, has been under serious changes due to building of both large dams and run-of-river hydropower plants. Besides 15 large dams being planned to be built on the main channel of the Coruh River, there are also more than 120 run-of-river type hydroelectric power plants lawfully permitted to be constructed in near future on the tributaries of the River. However, because of the steepness and the roughness of the terrain in the region, natural resources (e.g., forest, water and soil) are in great danger especially during construction works of these projects. Thus, such large-scale projects may damage an important part of the Çoruh Valley, considered as one of the most important plant areas in Europe and Asia. Previous scientific studies have determined the following list of endemic and rare plants in the Valley: *Acer divergens* var. divergens, *Alyssum artvinense*, *Astragalus lasioglottis, Campanula troegerae, Centaurea pecho, C. woronowii, Chesneya elegans, Clypeola raddeana, Dianthus recognitus, Helichrysum artvinense, Hypericum fissurale, H. marginatum, Lathyrus woronowii, Linaria genistifolia subsp. artvinensis, Sempervivum glabrifolium, Seseli andronakii, Tripleurospermum fissurale* ve *Veronica liwanensis.* Therefore, it is highly possible that when these projects are completed in the main channel and its tributaries, these are the species to be negatively affected mostly. This, in turn, may change the risk categories of some of these species in the IUCN List.

In addition, forest ecosystems listed in the Bern Convention as habitats to be protected are getting fragmented due to building roads and tunnels for hundreds of kilometers long. These structures will divide these united forest ecosystems into many pieces; thus, creating a more fragile situation for these habitats against insect damage, snow and wind, runoff, or landslides.

In this study, negative outcomes of the large dams and run-of-river type hydropower plants that are already being constructed in Çoruh Valley on Artvin's plant diversity were analyzed. Endemic and rare plant species that are at high risk due to these projects were emphasized. Also, some recommendations were given in order to slow down the damage or introduce methods to protect some plant species under construction threat in the Valley.